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**WORTNIGHTLY
REVIEW**



Airing Needed

THE old story of the shelving of vital civil aviation facilities flared up again the other day and will probably get an airing in Congress.

We have previously preached the need for the Army and Navy to use all available aviation facilities for the war effort. There is a shocking amount of airplane and personnel resources remaining idle at a time when our No. 1 effort should most assuredly be in the complete direction of air power.

In Mid-June Mr. David Shawe, a staff writer, decided to find out just how many civil aviation facilities were not being used by the Army and his subsequent revelations in *American Aviation Daily*, fully substantiated by facts, broke into headlines of leading newspapers in New York, Chicago and other cities.

It seems that about 2,650 planes of various civil types are now being used by Civilian Pilot Training operators, but that an additional 12,900 similar planes are available but are not now being used for training. There are even 500 Army type trainers belonging to CPT operators not in use. Instead of using the full CPT training capacity of 180,000 pilots a year, the present rate of training is in the neighborhood of 27,000 yearly—or only 15% of capacity.

(Turn to page 26)

Protests Mount Over Army's Failure to Use CPTP Facilities

Finally Recognized



Official U. S. Navy Photograph.

Clamor For More Carriers Increased After Midway
Supersede Battleships in Building Plans (See pages 3 and 20)

Congress Set To Challenge 15% Use of Capacity

By DAVID SHAWE

WITH POTENTIAL pilots stacked up throughout the country waiting to be assigned to Army flight instruction, with the Army spending a \$312,000,000 appropriation for construction of elaborate new training facilities, and with available civilian pilot training schools operating at only a fraction of their capacity, protests over the Army's failure to utilize civilian facilities have rapidly been mounting toward the boiling point.

Whether or not it is fair to charge the Army with maintaining a "brass hat" attitude, since criticism of military planners is always easy and frequently unfair, depends to quite an extent on whether the Army changes its stand and uses these facilities or else explains to irate Congressmen, as well as to the public, just why 100% use cannot sensibly be made of civilian pilot training schools.

It may be that the Army is now equipped to give its own training to all the pilots it can use. It may be that facilities now under construction will be turning out combat pilots before American factories really

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and Regular Features



NOCTURNAL PROWL... the somber silhouette of
a mighty Republic P-47 THUNDERBOLT in the
stratosphere portends sudden disaster for Axis
planes caught out in the night air. Republic Avia-
tion Corp., Farmingdale, Long Island, New York.

REPUBLIC AVIATION



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Capitol Awakens to Battlewagon's Death at Last, Glenn Martin Says

Must Now Build Air Transport Supply System

By ROBERT H. WOOD

THE battleship has been dead for some time but Washington is only now learning about it and stopping plans for dreadnought construction, Glenn L. Martin told members of Aviation Writers Association in Baltimore June 21 after a tour through the Middle River Plants.

Although conceding that shore-based aircraft have the advantage over carrier-based planes in any offensive, the pioneer aviation manufacturer took issue with those who claim the aircraft carrier is outmoded. He believes it will continue to play a vital role for several years, with changes in construction and technique.

The American people have been ahead of Washington in acceptance of aviation, the speaker told his guests, but he blamed powerful isolationists for our late start in mass production of warplanes. These short-sighted individuals believed that if we got into a war it would be fought on the defensive, on our own continent, and they were unable to see necessity for long-range bombers and transports, the speaker told his guests.

Also neglected was the supply problem, so that today we find ourselves unable to initiate all-out offensive air combat until we can build a world-wide air transport network which can convey vitally needed materials in two days over a distance requiring months by surface vessels, Mr. Martin said.

So, unless there is an unexpected turn of events, it looks like a long war, because we must get air transports to augment our fighting units. Later in his informal talk Mr. Martin expressed the opinion that a thoroughly adequate air cargo system could be built up in two years.

Repeating his recent assertion that engineers can see no limit to the size of aircraft, Mr. Martin added that "nothing can stop the coming of the big ships."

Although commercial aviation will boom in the post war period, it will be paced favorably by military production, he believes, because after a victorious war it will be the responsibility of the U. S. to police the world, "and that can be done only with aircraft."

Transoceanic travel will be best served with flying boats rather than landplanes, he contended, although agreeing that both types will be



Official U. S. Navy Photograph

Grumman's New Torpedo Bomber
A Potent Weapon in the Battle of Midway

used. Giant flying boats are as efficient as landplanes and are much better able to take care of themselves on the sea in times of difficulty, he said. Transportation companies operating landplanes over oceans would be liable to public criticism after a transport's loss, he said.

Confident of the extensive growth of glider transports, the speaker emphasized that they lend themselves to perfect streamlining, greatly increase the potentialities of every powered plane which can be used as a tractor, cut cost of construction, operation and maintenance, and afford aviation for the first time the flexibility of the railroad train which can pick up and release units by area. The glider train, however, need not even stop for these operations.

Joseph T. Hartson, executive vice president, and H. F. Vollmer, Jr., vice president-manufacturing, made clear that the aircraft industry is now in mass production and at the same time "keeping up to the minute" on all changes dictated in battle.

It's the Navy 'C' Now

The Navy's blue and white "C" flag, for excellence in construction ashore has been broken out over the work being done at Floyd Bennett Field, Brooklyn, N. Y., by three firms engaged in expanding the Naval Air Station there. The pennant, won in competition among 54 naval stations for the February-March-April period, was awarded to the White Construction Co. Inc., the Underpinning and Foundation Co. Inc., and Riggs Distler & Co., Inc.

In the official notification of the award, Commander R. E. Hancock, naval officer in charge of construction, said, "The 'C' pennant is the highest rating attainable for construction ashore and is comparable to the 'E' for excellence in the Navy afloat."

New Grumman Torpedo Bomber Surprised Japs

THE NAVY'S new torpedo bomber, the Grumman "Avenger," was "one of the surprises that met the Japanese at Midway Island," the Navy announced on June 13.

The plane, designated as the TBF, reached the Pacific fleet weeks ahead of schedule, four months after the first production model left the factory, it was said.

"In comparison with existing torpedo bombers, the 'Avenger' has a much greater range and is 25% faster," the Navy explained. "With a top speed of more than 270 mph, a range of 1400 miles, a normal load capacity of 2000 lbs. of bombs, or one torpedo, and a ceiling of more than 20,000 ft., the 'Avenger' has proved to be a worthy battle companion to the Grumman 'Wildcat' and the Douglas 'Dauntless' in the carrier-based squadrons of the Navy."

Army Trains Women Aviation Mechanics

THE FIRST Army-operated training school for women aviation mechanics opened in Montgomery, Ala., June 15, with a class of 30 candidates, who hope to relieve male mechanics for overseas duty.

Maj. John L. Cheseborough, commander, Maxwell Field sub-depot, Air Service Command, will be in charge. He said, "Continuation of the program, with additional classes to be added regularly, will depend on progress shown by the first group."

The women will be paid \$75 monthly during the training course, and after qualification as mechanics will get \$1,500 per year. Applicants must be between the ages of 18 and 48.

Controversial Wires Reveal Aleutian Action

Lockheed Lightnings, Curtiss P-40s, Martin B-26s, Boeing B-17s and Bell Airacobras participated in the opening stages of the Army Air Forces' counter-attacks against the Japanese in the Aleutian Islands, according to telegrams dispatched to the respective manufacturers and signed by Lieut. Gen. H. H. Arnold, Commanding General, Air Forces.

The telegrams hit the headlines at a time when the Navy Department was making only the barest mention of any activity in the Aleutian areas and consequently the messages received immediate and widespread publicity.

Result was a bitter controversy between the services which came simultaneously with the President's appointment of Elmer Davis as chief of the new Office of War Information. The incident lent support to those who are demanding that OWI control all official news announcements, including those of the Army and Navy.

The Martins, Gen. Arnold wired, had sunk one cruiser and damaged a carrier. They had operated in both Midway and Aleutian engagements.

Down Four Japs

The P-40s surmounted "most adverse weather conditions" and "engaged a squadron of 14 enemy airplanes, destroying three dive bombers and a Zero fighter before the others fled. The P-40s were in the thick of the fighting throughout the engagement."

Lockheeds played "a major share" in the Aleutian operations. "Your P-38s which already have demonstrated their qualities as fighters were pressed into service for this essential scouting work and in awesome flying weather with low ceilings performed their seemingly hopeless tasks beyond anticipation," Arnold wired.

In a special telegram to *American Aviation Daily*, the Lockheed company praised a service crew which equipped the P-38s for special North Pacific duty.

"When Army intelligence warned of the impending attack on Alaska, a squadron of P-38s was hastily organized from planes recruited from Air Force stations all over the Pacific Coast. Due to the peculiar nature of the task that was to be assigned to them, these planes had to be returned to the factory for installations of special equipment."

"The Lockheed production service men were given 10 days to complete the job. By working two crews of 100 men each 10 hours a day, the company completed the assignment in six days. The planes left Burbank early in June and were in service scouting the Japanese within a few days."

Post-War Uses for Military Gliders Seen

Will Aid Airlines To Establish Lower Tariffs

MILITARY glider-plans have taken tremendous strides in Washington during recent weeks. Orders for equipment, programs for training pilots, and plans for operation all have moved ahead in a manner indicating that war necessity may bring about an aviation phenomenon which in peacetime would have been years in developing.

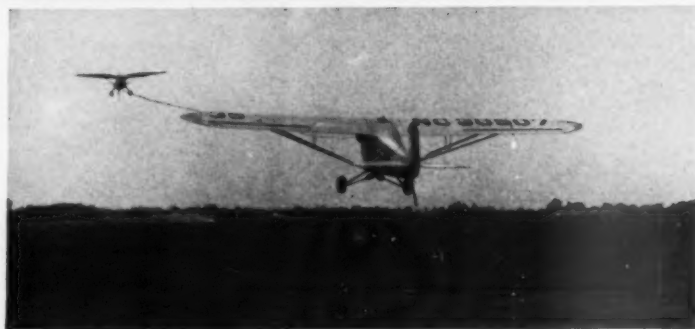
The fact that most developments recently have been spurred by military authorities, faced with serious transportation problems, makes them no less significant to the commercial aviation industry.

Glider developments, because of relatively recent recognition of the glider as a practical medium of transportation, stand out above any recent progress made in the cargo plane field, although such progress has been notable in itself. This is emphasized by the enthusiasm with which Army and Navy authorities speak of the part they expect gliders to play in the war. Many of these high ranking officers a very few months ago had given little or no thought to possible military uses of gliders, not because of refusal to recognize a good thing, so much as because very little evidence had ever been prepared in favor of the cargo glider.

Seen As Solution

To say that the "lesson of Crete" awakened military planners to the value of big gliders is to exaggerate this country's information on the extent and effectiveness of the Crete affair so far as gliders were concerned. What most Army and Navy men freely admit is that their very urgent need for fast transportation facilities, for large quantities of materials and large numbers of men, was all that was needed to throw the switch. The fact that they usually speak of cargo rather than troops does not mean that troop transport is being overlooked. It simply means that our military services are faced with a tremendous job in getting all the implements of war to all our wide-spread battlefronts, getting them there swiftly and safely, and getting home for more.

In the cargo plane and in the glider is see a solution which is afforded by no other means of transportation. It is unfortunate



Photos from Press Association Inc.

Glider Pick-up: The method used by All American Aviation in its pick-up mail operations is being tried by Army Air Forces to pick up gliders. In the upper photo, the pick-up plane has just made contact with the towing rope. The L-4 liaison plane, with propeller removed, which was used instead of a glider in the first tests, may be seen in the background. In the lower picture, the "glider" is in the air, nearest the camera. This method proves valuable in retrieving gliders from fields on which planes cannot land.

that this solution was not more generally recognized earlier in the game. But it is fortunate that the men who must make the decisions apparently have decided in favor of the glider and are set to waste no time in getting quantities of them into the air.

It takes little more than a review of a few of the statements and figures presented by some of the industry's more practical visionaries to emphasize what wartime glider developments can mean to the postwar industry. Construction of the hundreds, thousands, or whatever figures the war's duration permits, of cargo carrying gliders means simply the existence of that

much equipment for starting post-war commercial operations. Training of pilots and ground crews for the military operation of gliders means providing commercial operators with a ready source of good personnel. Development of mass-production manufacturing facilities during the war means a better product at a lower price after the war.

Cargo Uses

In recently releasing information on its development of glider pick-up equipment, the Army passed lightly over the commercial uses of such equipment and emphasized its importance in training pilots.

The fact that a towplane can get training gliders into the air rapidly, without having to land before taking up each student, is of importance so far as training is concerned. Where large scale cargo operations are concerned, the device has far broader significance.

To realize that a loaded glider, the size of a DC-3, can be lifted from a small field where perhaps a powered plane of half that size could not get in or out, is to recognize the solution to a major limitation on present commercial air transportation. To learn that a fully loaded powered plane the size of a DC-3 can tow two loaded gliders of the same size at about two thirds the cruising speed of today's airliners, and do it by dropping off and picking up gliders while in flight, in such a way as to maintain more efficient schedules between terminals, is to see another limitation removed from the development of profitable commercial operations.

AAA Method

The Army's glider pick-up device is essentially a simple adaptation of equipment perfected by All American Aviation, Inc., for its operations in non-stop pick up and delivery of mail and light packages at isolated points. The Army has found that by putting the load into a glider instead of a sack, the weight which can be lifted from the ground is increased many times. Since a glider becomes air-borne after a few feet of forward motion, it is estimated that 1500 pounds in a glider can be lifted as easily as 200 pounds dead weight. Using bigger gliders and more powerful tractors, this ratio might be increased to a point stating tons rather than hundreds of pounds.

Operation of the glider pick-up device is described by the Army as follows:

"Under the pick-up system the glider is placed about 200 feet in back of two uprights, between which a tow line is placed. Inside the cabin of the airplane which is making the pick-up is a revolving reel equipped with a built-in brake, which carries a tow-line cable and the grapple hook.

"The tow plane comes in and as it approaches the pick-up ground station the pilot levels off much in the same manner as he would in making a landing, except that his speed is greater, anywhere from 95 to 120 miles an hour. He lowers the pick-up arm and the hook at the end catches the suspended tow-line. At the moment of contact with the airplane from 12 to 14 feet from the ground, the cable reel inside the plane is permitted to spin freely to pay out additional tow cable to cushion the initial load imposed by the dead weight.

(Turn to page 12)

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WPB Summary

AIRCRAFT ORDERS P-109 and P-109-a, which expired June 30, have been amended to permit suppliers who do not come under Production Requirements Plan to extend ratings for the purpose of filling orders from producers rated under P-109 and P-109-a, even after the orders have expired. P-109 assigns an A-1-a rating to the production of military aircraft of tactical types, and P-109-a assigns an A-1-b rating to producers of trainer types.

SEGREGATION OF NICKEL AND STEEL ALLOY SCRAP is ordered by WPB. Classifications have been made for various types and grades of scrap, and mingling of various classifications is prohibited except in melting process. The order is intended to check sales of mixed scrap at prices established for higher grades.

ETHYL CELLULOSE has been placed under complete allocation control. Except where deliveries from one person to another total less than 50 lbs. per month, no deliveries may be made without specification authorization from WPB's Director of Industry Operations.

INDUSTRIAL MACHINERY ORDER L-123 has been interpreted so that equipment will be considered to have been delivered on effective date of the order (May 26) if such equipment has been placed in the hands of a common or contract carrier for shipment to the purchaser prior to that date.

NEW AIRPLANE TIRES may now be purchased only by persons who have obtained from CAA Safety Regulation Inspectors a certificate stating the necessity of the purchase. Old tires must be turned in. Certain exemptions are granted to the military services and to specified individuals.

RULES FOR EXTENSION OF PRP preference ratings have been established in order that subcontractors not under PRP may nevertheless operate under the same rating as is extended to the prime contractor.

PRIORITIES REGULATIONS Nos. 10 and 11, recently published, bring up to date all details governing the operation of Production Requirements Plan. Regulation No. 10 defines the allocation classification system under which the symbol 1.00 is to be used on purchase orders for production of all military aircraft, engines and parts. Other symbols, up to 23.00, cover a wide range of military and civilian production.

Priorities Regulation No. 11 outlines the full purpose and operation of PRP, with detailed definitions, restrictions, and operating procedure.

War Agencies Review

POSTWAR PLANNING FOR THE AIRCRAFT INDUSTRY, thus far largely an "every man for himself" proposition, took a big stride toward unified action when manufacturer's representatives gathered in New York June 19th and 20th for the aeronautical Chamber of Commerce's fourth annual export meeting.

Attendants at the meeting came away convinced that real progress had been made toward preparation for meeting the post-war readjustment. A committee to deal specifically with this problem was appointed and instructed to make an immediate comprehensive survey. Chairman of the committee is Sol W. Voorhes, Lockheed Aircraft Corp.'s eastern representative. H. W. Flickinger, vice president of Republic Aviation Corp. was named vice chairman of the committee.

DEALING WITH NUMEROUS GOVERNMENT AGENCIES on export and post-war problems has given the manufacturing industry a big headache. New hope comes from the fact that representatives of these agencies attended the New York export conference and came away with a clearer knowledge of the actual problems of postwar aviation. The industry feels that, as a result, the scattered and un-coordinated activity of the many Washington departments may be somewhat unified, thus enabling manufacturers to plan for the future with a clearer knowledge of what the government is going to do.

BOARD OF ECONOMIC WARFARE, frequently charged with being too tangled up in itself to accomplish much, may soon come to the foreground among government agencies in offering tangible aid to the industry. BEW's aviation expert is said to know his stuff and to have some ideas which can be of real assistance toward establishing postwar export markets.

MATERIALS FOR CARGO PLANES are being considered ahead of anything else by WPB's air cargo committee. Following initial Washington conferences by the committee, Grover Loening, technical consultant to the group, left for a nation-wide tour to survey the materials situation along with studying production facilities.

The committee's recommendations on materials will doubtless carry weight, since the group has access to top men in WPB. Thus materials now considered too critical for anything but combat equipment might be allocated to cargo planes if the committee insisted it was necessary. However, some of the less critical materials seem more likely to be recommended. Whether these recommendations will be for plywood, stainless steel, low alloy steel, or aluminum, to a large extent may determine who will get the contracts and sub-contracts for the planes.

The committee is moving fast and determined to get prompt action on the cargo plane problem. There may be delays later when details are taken up with already active Army and Navy officials.

PRICE CEILINGS FOR AIRCRAFT PARTS are still being muddled around by OPA. It is expected that even when details are finally announced the atmosphere will be far from clear, and, as is happening with more and more of OPA's regulations, numerous revisions and amendments will have to be made before the plan can function at all smoothly.

WAGE STABILIZATION on a regional rather than national basis was suggested by Wendell Lund in calling an aircraft wage stabilization conference for the West Coast. The conference will meet in Los Angeles on July 6th. Lund, director of the Labor Production Division of WPB, would not comment on the proposal by UAW-CIO's Richard Frankenstein for nation-wide stabilization at the highest level prevailing for any job in any part of the country, beyond saying that he "understood such a proposal had been made."

The pattern to be set for West Coast aircraft wage stabilization will probably later be used in establishing procedure for other sections of the country. However, union officials will probably have to fight hard to get the high wages of one area put into effect in another area.

STATEMENTS BY WMC that workers would be frozen to their present jobs and all labor pirating stopped except where a worker could contribute more in another job, have not yet been followed by concrete proposals on how such job freezing shall be made effective. WMC states it hopes for voluntary cooperation of employers and workers, but it is generally felt that workers will continue to move where the pay looks better, and employers will continue to look elsewhere for trained personnel rather than take time for training workers, until Washington puts a positive stop to it.

OPA Briefs

USED MACHINERY and electrical equipment will come under the terms of Maximum Price Regulation No. 136 after July 1, it has been stated by OPA.

IMPORTED COMMODITIES, if kept in their original form, may be sold directly or indirectly to military services and government agencies without coming under the terms of the General Maximum Price Regulation.

TIRE STOCKS IN WAREHOUSES may be drawn out for use by owners only on presentation of a rationing certificate issued in the usual manner by a local rationing board. Date of storage has been eliminated as a factor in determining whether tires may be withdrawn.

AVIATION GASOLINE price ceilings, as well as ceilings on synthetic rubber toluene, and materials essential to their manufacture, have been removed to spur production.

MOST EXPORT SALES to Lend-Lease Administration, British Purchasing Commission and British Air Commission are subject to domestic price schedules rather than the Maximum Export Price Regulation.

ALUMINUM SCRAP buyers and sellers are warned by OPA that dealing on an "as is" basis without proper analysis of quality may lead to penalties for violation of Revised Price Schedule No. 2.

A GENERAL STEEL PRODUCTS Advisory Committee within OPA will be headed by Walter E. Watson, Vice President of Youngstown Sheet & Tube Co.

TRANSPORTATION OF GOODS by other than common carriers, and commercial storage of goods, does not come under price ceilings until July 1 as a result of OPA postponement.

New Navy School

The Navy's new pre-flight school at the University of Georgia was formally placed in commission on June 18. Classes started June 11.

Delayed Certificate

Pointing out that combat conditions make it almost impossible to maintain elaborate records on the number of aerial flights participated in and the number of hours flown for the purpose of qualifying an officer to receive flight pay, Secretary of War Stimson has asked Congress to simplify the existing procedure and permit such personnel to execute certificates attesting to the hours flown, etc., such certificates to be accepted for pay purposes. The measure would be temporary and would terminate six months after the war.

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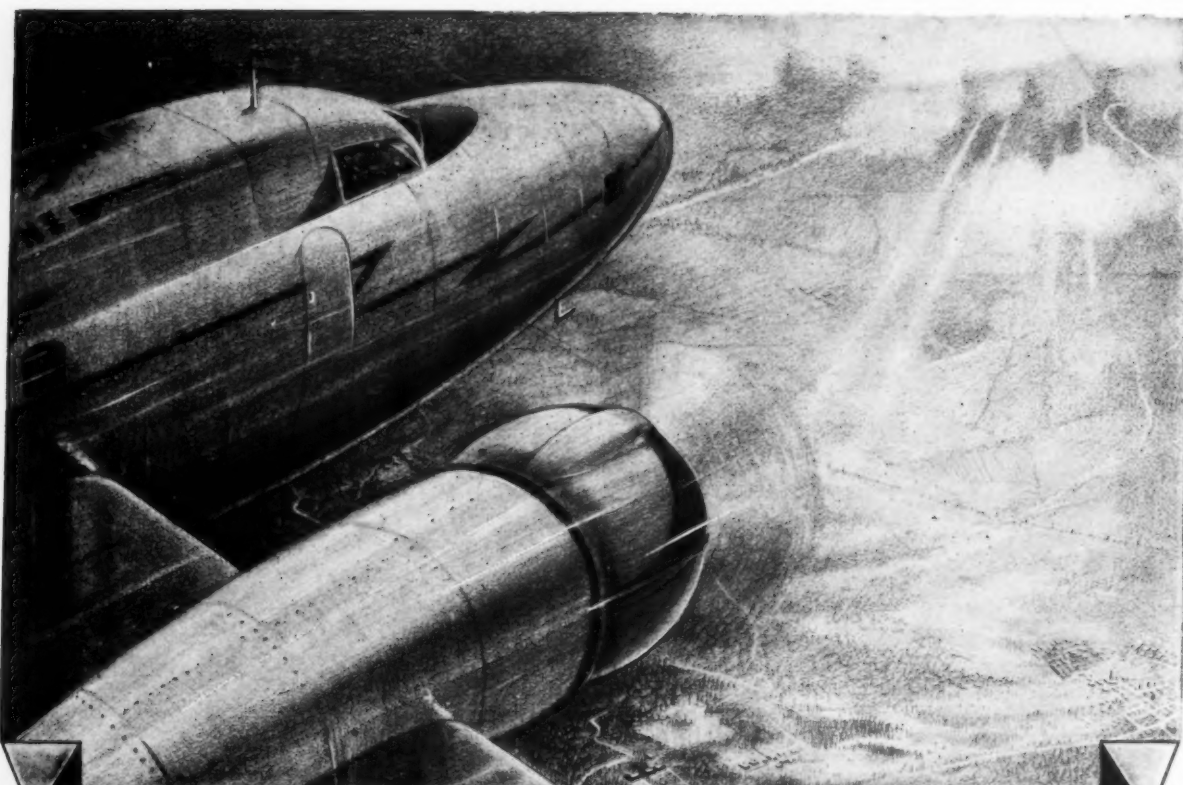
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IT is well over two hours now since the ship's twin engines roared once again into life and the tarmac at Halfway airfield started slipping hurriedly away from the cabin windows. The Lawes River with its attendant pastures and creeks is just over one hour and two hundred miles behind us to the West, and already the patchwork landscape ten thousand feet below is changing from wooded foothills into, flat lush plain. Away now, to the right, the main coast arterial is slicing diagonally across country to join the broad, traffic-spattered ribbon of the State Highway beneath us. Soon they will dive together as one wide boulevard into the tangled environs of the City, and the great ship will start its wide down-spiral to the airport. Dates fixed for the half-hour after the ship's arrival will be kept to time. Nothing uneventful has happened on this swift, luxurious hop from capital to capital. Nothing uneventful was expected

to happen. In modern travel we take full efficiency for granted.

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Commercial Airlines Earn U.S. Army's High Tribute

The 100-odd commercial airline planes now in the service of the Contract Air Cargo Division of the Army Air Forces have earned for themselves the title of the "hardest working planes in the world" as a result of accomplishments throughout the western hemisphere.

Maj. Gen. H. J. F. Miller, chief of the Air Service Command, paid tribute to the efficient operation of the fleet by pointing out that they were transporting an average of a million pounds of essential priority cargoes a week. Fifteen U. S. airlines are participating in the service.

The schedule calls for each of the contract planes to fly an average of 10 hours, or 1,500 miles a day, carrying about 3,500 pounds of cargo, as well as transporting military personnel on urgent missions.

Solve Big Problem

"Only the utilization of the facilities of the cooperating commercial airlines," said General Miller, has made it possible for the Contract Air Cargo Division to fulfill this gruelling schedule during the first 30 days of operation. By taking advantage of existing airline maintenance, overhaul, communications, operations and pilot facilities for the prosecution of the war, we not only have solved the problem of transporting by air the essential supplies from depot to depot throughout the Western hemisphere, but we have avoided the costly and delaying necessity of duplicating these facilities within the Army Air Forces."

The million pounds of freight now being flown each week, General Miller pointed out, is four times as much as was being handled at capacity by approximately the same number of planes prior to the contract system.

Few Army Ships Used

Most of the planes being used are commercial ships converted into military cargo carriers under a recent order by the President placing the domestic airlines of the United States on a wartime footing. Only a few are new Army ships produced specifically for the purpose of transporting Army air cargoes.

Army Air Forces cargo planes, however, are expected to augment the fleet by some 300 planes by the end of this year. As these new ships are put into operation, they are turned over to the airlines to be operated for the Army Air Forces by airline personnel.

Most of these contract airlines are flying approximately the same routes as their civilian operations, thus gaining the benefit of pilots' familiarity with territory and taking advantage of existing maintenance and service facilities. For long and cross-country flights,

pilots are stationed along the route to enable them to fly in eight hour relays.

Carry Vital Items

A number of air freight terminals have been established at centers of industry throughout the country, which serve as pickup points along the routes. In the cargo of almost every flight are included such vital items as airplane engines, engine parts, armament, generators, and propellers. During the first nine days of operations, planes of the Contract Air Cargo Division of the Air Service Command carried almost 800 military personnel as passengers, at a saving to the government of \$32,000 at standard air carrier fares.

Among the commercial transport planes converted to military use under the contract are DC-3's, Lockheed Lodestars and Boeing 247's. As the production of heavy cargo planes permit, more and more of the Douglas C-47's and the huge four-motor C-54, as well as the Curtiss C-46 will be added to the fleet.

Chief of the Contract Air Cargo Division of the Air Service Command is Lt. Col. Robert J. Smith, who has been associated with airline operations and traffic management since 1928. He was vice-president of operations for Braniff Airways, Dallas, Tex., before joining the Army Air Forces. Serving under Col. Smith as operations officer is Maj. M. T. Stallter, former manager of air mail and express and assistant to the vice-president of American Air Lines.

Patterson Soloes

Undersecretary of War Robert P. Patterson, who two months ago decided he should learn to fly because the skill "might be useful" recently cleared the first hurdle in his training schedule by making his initial solo hop at the Congressional Airport near Washington. A friend's announcement that the flight was "successful" jokingly drew a remark from Mr. Patterson that "the word seems superfluous—the fact that I'm here proves that."

On New Time Plan

A 24-hour clock system has been adopted by the Army covering dispatch of all official messages, orders and reports, effective as of midnight, E.W.T., June 30. Under the 24-hour plan, time is expressed in a group of four digits, running from 0000 to 2400.

Navy School Opens

The Navy has taken over virtually half of the dormitories, classrooms and athletic facilities of the University of North Carolina for use by its preflight training school which has been formally opened there.

Josephus Daniels, Secretary of the Navy during the last war; Governor Broughton of North Carolina and high ranking Navy officials from Washington were on hand for the commissioning exercises of the new naval aviation preflight school, designed to "toughen up" some 8,000 young men a year for the rigors of Navy pilot training.

10 AAF Officers Are Promoted

TEN officers of the Army Air Forces have been nominated for promotions by President Roosevelt. Nine of the promotions are temporary, and one is permanent.



Gen. McNarney

Gen. Emmons

Lieut. Gen. Delos C. Emmons, holding a temporary promotion at present, was nominated for promotion to the permanent grade of major general. Maj. Gen. Joseph T. McNarney was advanced temporarily to lieutenant general.

Brig. Gen. Ralph Royce and Brig.



Gen. Hale

Gen. Royce

Gen. Willis H. Hale were nominated to be major generals, temporary.

The following six colonels were advanced to the temporary rank of brigadier general: Edwin S. Perin, Ennis C. Whitehead, Kenneth N. Walker, Carl W. Connell, Albert L. Sneed and Nathan F. Twining.

Guiberson Predicts Diesels in Warplanes

DIESEL-POWERED warplanes will be driving U. S. air armadas to victory "sooner than you think," in the opinion of Allen Guiberson, executive vice-president of the Dallas, Tex., diesel engine company which bears his name.

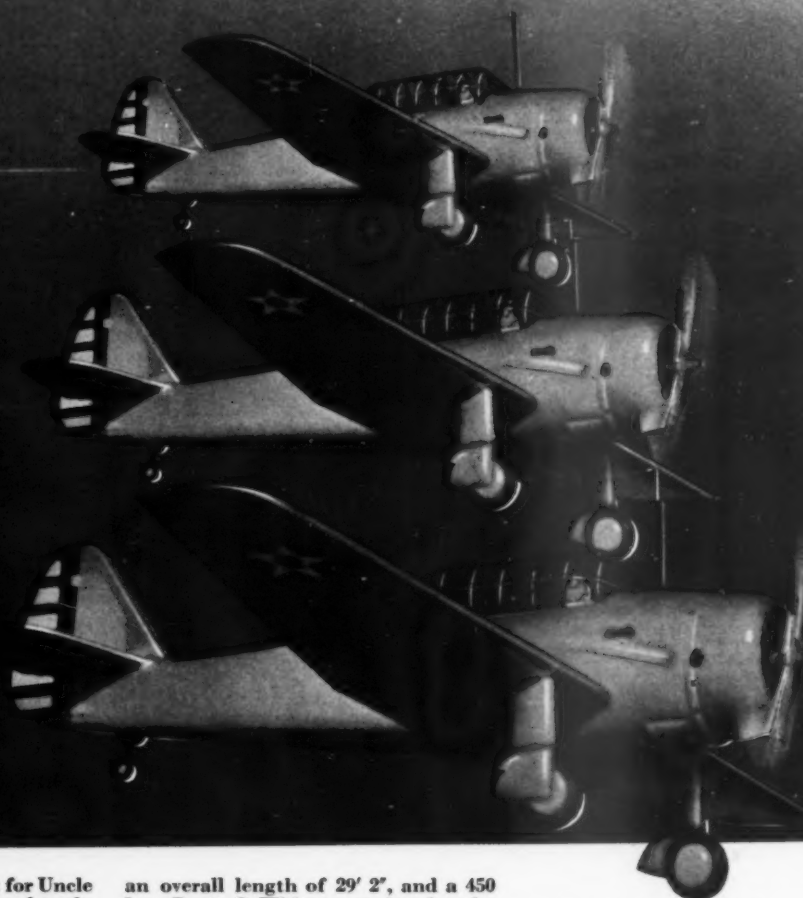
Referring to a communication from Maj. Gen. Campbell, chief of ordnance of the U. S. Army, paying high tribute to the performances of the company's diesel powered tanks now operating on the Libyan plains, Guiberson added that his company's aircraft type diesels were the only engines of their kind in the U. S. which were readily available for combat when the British and American orders came through. "Their proven sturdiness and efficiency made them ideal to power the big land battleships," he said. "Sooner than many think, diesel engines will also be driving American airplanes to victory. They are the ideal power plant for cargo planes."



Six Months Ahead: Vega Aircraft Corp. is half a year ahead of schedule on production of Boeing B-17 Flying Fortresses, and is also "well ahead" of schedule on Vega Ventura twin-engined bombers for the British, according to Courtlandt S. Gross, president. Photo shows workmen in final assembly rushing one of the Fortresses to completion.

FLEETWINGS

*is building a training fleet
of stainless steel!*



PILOTS who expect to fight for Uncle Sam have to be tough . . . and so do their planes! Fleetwings, along with its parts production for leading military aircraft, is now building a basic trainer, the BT-12, for the U. S. Army Air Forces. . . . Flyers report that this new plane can really "take it."

Specifications of the sturdy, maneuverable BT-12 . . . the world's first military plane built principally of stainless steel . . . include a 40' span,

an overall length of 29' 2", and a 450 h.p. Pratt & Whitney engine for the power plant.

Designing and building this air-worthy ship came naturally to Fleetwings engineers . . . because they have long been recognized as pioneers in developing the spot welding, stamping and fabricating of stainless steels for aircraft and parts.

Fleetwings continues to pioneer . . . even while keeping ahead of today's big

production schedule . . . so that tomorrow's tougher and faster war-planes will reflect American ingenuity "revved up" to a new high!

★

FLEETWINGS

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BRISTOL • PENNSYLVANIA



AHEAD OF PRIME CONTRACTORS' REQUIREMENTS is the record of Fleetwings' production men and women . . . who are intent on putting a dent in the Axis. Their speed is important, for they're building wings and control surfaces for many leading fighters and bombers.



"KNOW-HOW" PAYS OFF: Fleetwings has stepped up total output about two thousand percent in thirty months by putting these seven principles into practice:

- (1) Mass-production of aircraft parts by mobile production.
- (2) Simplification of each production job into one or two operations.
- (3) Intensive use of experienced supervisors.
- (4) An efficient training school to feed in pre-tested men and women.
- (5) Moving jigs, conveyors and other mechanization to keep 'em rolling.
- (6) Detailed budgeting of time, materials and money.
- (7) A "flying squad" of engineers on special assignments . . . spotting production flaws and inventing improved techniques.



"ATTACK PLANT": Now that you know how Fleetwings builds 'em, you'll be interested in the alert attitude of the Fleetwings organization . . . from top to bottom. Back in March, we had our "Defense Plant" sign painted out, and substituted "Attack Plant." Fleetwings aircraft parts and hydraulic equipment are putting that slogan into sky-battles!

"KEEP 'EM FLYING!"



BRISTOL

PENNSYLVANIA

Jouett Says Plane Output Up 85 Pct. Since Jap Attack

THE FIRST six months of concentrated war effort on the part of the U. S. saw an increase of "nearly 85%" in military plane production, according to Col. John H. Jouett, president of the Aeronautical Chamber of Commerce of America and recognized spokesman for the country's aircraft manufacturing industry.

Col. Jouett's summary of the nation's production output, made on the six-months anniversary of the Pearl Harbor attack, was generally conceded to carry more authority than the statement released about the same time by Sen. Elmer Thomas (Dem., Okla.) in which he reported production "had reached a level of nearly 5,000 planes a month."

Declaring that American production will soon exceed that of the combined enemy—Germany, Japan and Italy—Col. Jouett announced "many striking advances in manufacturing technique, in design of new, harder-hitting, further-ranging warplanes, in labor training and other important phases of the industry" since the assault upon the Hawaiian Islands.

"The simple statement of production increase does not tell the whole story, by any means," he continued. "Much of it cannot be told now."

Senator Thomas' interview quoted him as saying that production "was up to the President's schedule now, and next year we will reach his second objective of 10,000 planes a month." Thomas is chairman of the Senate Appropriations Subcommittee which handles Army bills.



Friend or Foe?: The U. S. Navy believes it is just as important to know friendly as well as enemy aircraft, hence the "Aircraft Recognition School" as shown in this photo teaches seamen how to distinguish various aircraft. The model being carried overhead in simulated flight is a B-17-E Flying Fortress.

Aviation Writers Elect "Cub" Taylor

Sloane "Cub" Taylor, aviation editor of *The New York News*, was elected president of the Aviation Writers Association at its annual meeting in Washington June 19-21. Mr. Taylor succeeded Devon Francis, now of *Time*, who served for four years. Only other contender for the position was Maurice Roddy, of *The Chicago Times*, following withdrawal from the race of Michael Froelich, of *Aero Digest*. The vote was 71 to 21.

Charles Gale, editor of *The Sportsman Pilot*, was elected first vice-president, and George Haddaway, editor and publisher of *Southern Flight*, was elected second vice-president. William S. Friedman, of *Air News*, was elected secretary, and Leighton Collins, editor and publisher of *Air Facts*, was elected treasurer. Collins received the heaviest balloting support of the election. Phillip Andrews, publisher of *Air News*, was chairman of the nominating committee.

Navy Starts Training Weather Forecasters

Meteorologists trained in five of the leading universities of the country soon will be available to the U. S. Navy, according to a bulletin issued by the Department just recently, revealing that the first class of 100 officers will soon commence training in forecasting and synoptic and dynamic meteorology, which will prepare them for assignment as assistants at major Naval air stations and other naval activities. Requirements include a college degree in engineering or science.

Late in July a special officers' class in aerology will open at the post-graduate school, U. S. Naval Academy at Annapolis. In a staggered expansion program 225 men are graduating every three months from the aerographer school at Lakehurst, with third class ratings. Upon completion of the course they are assigned immediately to the fleet or at naval air stations.

Jap Output Underrated, British Writer Asserts

DISPUTING the figures usually given of 250 to 400 airplanes a month for Japanese production, a writer in Britain's *Manchester Guardian* states that output in 1941 was probably close to 12,000 to 16,000 (1,000 to 1,333 a month).

The writer asserts that in 1933 output was 2,140 airplanes and 3,900 engines. In 1936 output was 3,060 aircraft and 6,850 engines; in other words, already in 1936 capacity was higher than 250 a month.

Prize Enemy Patents Now Available in War Effort

SEIZURE of 600 enemy-owned patents, including processes covering the moulding of plastics, manufacture of aircraft instruments and construction of flying boats has been announced by Leo T. Crowley, alien property custodian, who said the processes and equipment covered in the patents would be made available immediately to American industry. Many of the patents were said to be of "immediate importance to the war effort."

Included in the seizure were some of the most recent German developments in aircraft instruments, designs, electrical equipment particularly in the ignition field, radio and television and others created by Frank Bosch and by Junkers and Arado, the two big German plane producers. Also included were Dornier Werke patents on aircraft, including flying boats.

A group of six patent applications covering processes for moulding plastics which were held by Fritz Von Opel, son of a German automobile manufacturer now interned in Florida as an enemy alien, if found usable, will be turned over to American industry also.

Two corporations included in the seizure were the Westminster Industrial Corp., of N. Y., a personal holding company of Von Opel and a Delaware corporation which engaged in shallow oil well drilling.

Most of the 600 seizures were made in line with requests from the Army and Navy departments, and, since they have never been licensed for American use, will be made available in the war production effort for the first time. Officials indicated that these patents constituted the cream of some 61,000 which are registered in this country as enemy-owned. Crowley's department to date has taken over about 3,000.

'Cobra Film Available

Bell Aircraft Corp. has announced that its new film "Cannons on Wings" will be loaned "to any recognized organization for the asking." The 16 mm. full sound and color film shows all phases in the manufacture of the company's famed Airacobra. Organizations desiring to show the picture should address requests to Bell Aircraft Corp., Motion Picture Division, 2050 Elmwood Ave., Buffalo, N. Y. The company requests that three dates, in order of preference, be listed for the showing of the film. Running time is 25 minutes.

Runway Problems

Increasing weight of bombers is causing failures in the older runways on airfields and giving U. S. Army Engineers new construction problems to solve, according to Col. George F. Lewis, Army Engineers.

Lt. Col. Fink Heads Glider Pickup Project

Lt. Col. Rudolph Fink, Army Air Forces' Materiel Division, has been placed in charge of the developmental project under which All



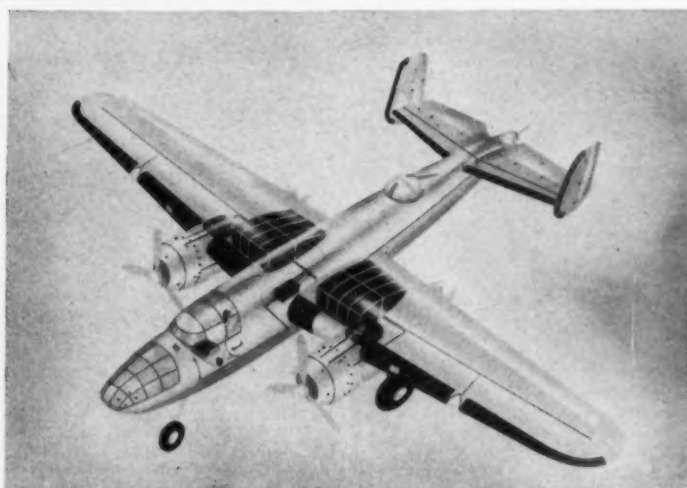
Col. Fink

American Aviation's air pick-up system is being adapted for use in picking up gliders. Col. Fink was the first Air Forces officer to be picked up in a glider during the recent tests at Wright Field.

A light plane was used in these tests, being converted into a glider by removing the propeller and attaching the pick-up and tow unit in its place. Richard C. du Pont, president of All American, flew the glider in the demonstration in which the light plane was used. On the following day, the tests were conducted with a two-place Army glider.

War Cancels Contest

Cancellation of the national Model Airplanes championship contest originally scheduled for Chicago the latter part of July has been revealed in a recent announcement from the offices of the Academy of Model Aeronautics. War conditions are blamed.



Bombers Need Rubber: Stressing the part rubber plays in construction of warplanes, the shaded portions in the artist's accompanying drawing of an American medium bomber indicate the use of rubber and synthetic rubber in the construction of the aircraft and its accessories. The nation's scrap pile of used rubber, now in the process of being collected for reuse, will soon take its place in the war against the axis, via the production lines. The drawing was released by B. F. Goodrich Co.

Post-War Glider Uses

(Continued from page 4)

of the glider on the ground. Some of the shock is also taken up by the tow-line itself which is made of nylon to give maximum strength with great resilience.

"Gradually the reel-brake is applied, the glider accelerates smoothly, and by the time the speeding tow-plane has leveled off the glider is air-borne. Then the brake is fully locked and the glider is in full tow. If at any time while the glider is in tow the acceleration exceeds 1G, an automatic shock absorber goes into action."

Trains Pilots

The Army also has announced that its glider pilot training program, in cooperation with the CAA, will be in full swing by July 1. To insure equipment for the four weeks preliminary training under supervision of CPT civilian contractors in the Midwest, the Army has turned a number of its light-plane-observation ships over to the contractors. These planes will be used for instruction on deadstick landings from various altitudes and angles of approach.

The next four weeks of glider pilot training will probably be provided in lightplanes which have been converted into gliders by replacing the engine with a new nose section, providing a third seat and set of controls (AMERICAN AVIATION, June 15). Army officials have been quite enthusiastic about this glider, both for its performance and for the fact that hundreds can be built by established lightplane manufacturers with hardly a change in their assembly lines.

Getting up into the bigger service

gliders which will be used for the final stages of training, and for actual operations, it is believed that the relatively large contracts which have already been let to a number of manufacturers represent only a start. Indications are that future contracts will call for a much larger glider than anything now in production. That they will be ordered in quantities is indicated by recent disclosure by the Ford Motor Co. that it has been asked by the Army to survey its production facilities with a view toward large-scale glider production. This may have greater significance than simply indicating production of a lot of gliders. Very large contracts to very large companies such as Ford might mean far less sub-contracting than many marginal firms have been anticipating.

How much these wartime glider developments will mean to the commerce of the postwar era obviously depends on the length and the outcome of the war. Airline officials are confident that whatever equipment and operating technique is developed by the military services will benefit the national and international postwar aviation situation. They realize that existence of hitherto unknown amounts of used equipment, replacement equipment, production facilities for new equipment, and personnel to handle large scale operations, all can benefit peacetime airline progress.

These officials point out that whatever progress is made after the war hinges, assuming an outcome favorable to long-range commerce, on the cultivation of markets hitherto untouched. This means selling air transportation to people who have never traveled by air, and to shippers who have never shipped by air. Much of the post-war market will be one which cannot be sold on the advantages of speed alone, nor on luxury. It will be a middle-class market, aware of the speed or comfort of air travel, but not sufficiently in need of those advantages to be willing to pay a high premium for them.

Obviously no wartime aircraft production is likely to provide the country with so many cargo planes, converted bombers and gliders that airlines, utilizing that equipment after the war, can operate at rates in direct competition with all rail and steamship carriers. However, it is equally obvious that the more equipment is available, the lower the rates for commercial air cargo can be set, and the deeper our airlines will be able to cut into express and freight now carried by other methods.

As the need for speed increases, and as equipment is improved and operating costs are lowered, more and more men will find it necessary to travel by air and ship by air until the time comes when aviation prophets will see their prophecies come true. Directly and indirectly our military and naval officials are now doing much to bring that time closer.

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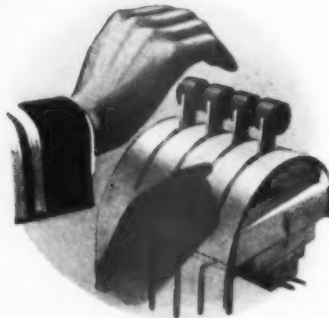
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More powerful than the largest mountain-climbing locomotives, 8000 h.p. airplanes will take off from airports of the United Nations. Dependable finger tip control of such mighty 4-engined power is now possible thru *positive positioning* of ADEL ★ISOdraulic Control Systems and Equipment offering precise control *irrespective of temperature, altitude, vibration, leakage, or system pressures.*

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Army Fails To Use CPTP

(Continued from page 1)

start crowding the Air Forces with planes. It may be that the great majority of the more than 500 schools which have been organized by the CAA are not capable of giving the type of training the Army is convinced its pilots must have.

It may be that any or all of these considerations has made it impossible to train thousands of Army pilots in hundreds of civilian schools. But the Army hasn't yet said so. It has said something about using everything that came up to its standards. If standards have to do with miles of concrete runways, and living accommodations better than most flight students have ever known at home, then that is a hard argument to beat. But if standards have to do with flying ability, judgment, resourcefulness and the other things that come in handy in a combat squadron, then the Air Staff should put out a few facts and figures to dispute the excellent showing CPT graduates are known to have made.

This is the feeling of folks back home, and of quite a number of important and pugnacious Congressmen who represent them here in Washington. Several of the legislators have taken enough interest in the matter to fortify themselves with a lot of facts, and are looking for a good opportunity to clear their throats and start talking. They point out that this is a thing which comes closer to many of their constituents than most war considerations. They insist that "this war is being fought by the people, and the people have every right to demand that nothing be left neglected which might bring the war to a quicker and better end."

An important Senator summed up the general attitude, saying: "Ordinarily we have no desire to meddle in the Army's conduct of this war. However, this is becoming so obviously a case of gross neglect by the Army of its responsibility to the American people . . . that I for one am willing to make such an issue of it that the Army will either have to make 100% use of the Civil Aeronautics Administration's civilian pilot training facilities, or explain in very clear terms why use of those facilities would not help speed up the war."

Early in March, after weeks of discussions, the War Department publicly announced that it planned

to train 45,000 pre-combat pilots in CPT schools. As a result of this announcement and related understandings between the Army and CAA, contractors who have been participating in the CPT program began making plans for the coming fiscal year. Regional and national meetings were held among flying school operators and college and university coordinators. Funds asked from Congress were raised from \$36,000,000 to slightly over \$72,000,000. Operators, grateful that their earlier CPT efforts were being recognized, looked forward to a reasonably good year, with a chance to keep their organizations intact and maintain payments on equipment purchased for CPT operations.

NAA Asks Inquiry

Officials of National Aeronautic Association, meeting in New York June 19 to 20, officially requested that Congress undertake immediate investigation of neglect of civilian pilot training facilities. The formal resolution adopted by NAA reads as follows:

"WHEREAS the crisis facing this nation demands the utmost speed in manning our air arm with highly trained personnel, and

"WHEREAS a large portion of the already established Civilian Pilot Training facilities are not being utilized and much of the available capacity of the approved aviation mechanic and technical schools is idle,

"NOW THEREFORE BE IT RESOLVED that the Congress be requested to make prompt inquiry to determine why available aviation training facilities are not being utilized to the fullest possible extent and to determine how all such aviation training capacity can be employed to best advantage for victory."

Meanwhile, the Army expressed satisfaction with the work done by CAA in training instructors for Army schools, and with twin engine and other advanced courses given under CPT to Army pilots.

Then, late in May, an Air Forces spokesman appeared at Budget Committee hearings and contradicted much of what had been understood by CAA and its contractors. The Army apparently didn't plan to make such full use of CPT, it didn't feel that these thousands of pilots were so urgently needed as everyone had thought, and it didn't look, by the time the hearings were over, as though CPT was going to have much to do with training Army pilots.

Subsequent actions reduced the original 45,000 trainees to 13,350.

It developed that these wouldn't go on into combat work, but would be "service pilots" assigned to fly gliders, liaison and observation ships, cargo planes and perhaps some ferry work.

The Navy asked CAA to give primary instruction to 20,000 men who would later go into Navy flight schools for advanced instruction. This 20,000 helped the general outlook, but added to the Army's 13,350 and a few hundred glider pilots, twin-engine students, and instructors for Army schools, it still left about three fourths of CPT's training capacity untouched.

Congressmen Ask Facts

Outgrowth of the Army's repudiation of its original announcements was a flood of protests, both from schools and from boys who had been waiting months for assignment to Army flight training and expected that the CPT plan might get them started. Several Congressmen asked CAA for figures on potential compared with actual use of CPT facilities for training military pilots.

These figures, when pieced together with evidence brought out in various hearings and conferences, and when added to the known attitude of various members of the Air Staff, demonstrate rather conclusively that anything approaching full use of civilian pilot, or mechanic, training facilities is not contemplated and will not be undertaken unless present high Army attitude is somehow changed.

Using available figures and estimates which may be quoted by Congress, the overall situation is roughly as follows:

The Civil Aeronautics Administration estimates that its present civilian contractors are capable of training as many as 180,000 pilots a year. Present rate of training is in the neighborhood of 27,000 yearly, or only 15% of capacity.

Present flight training capacity of all the armed services is estimated roughly comparable to aircraft production quotas for the year. Whether pilot training can be doubled in 1942 as aircraft output is supposed to hinges on how soon new schools can be built and put into operation. Obviously, military training will have to move rapidly to provide a satisfactory ratio of pilots per airplane.

The \$312,000,000 appropriated by Congress for construction of new Air Forces schools is sufficient, even considering the tremendous cost of each school, to provide "dozens" of them. Contracts for construction of these schools are being announced every few days. In most instances they are new in every detail and make no use whatever of established commercial airports, hangars or other facilities. They will have to be built from nothing into elaborate training plants in which nothing is omitted, but at which a man will not as a consequence come out in all cases a

better combat pilot than if he had lived in a tent or boarding house and made most of his landings and take offs from a sod field.

These new flight schools will cost from \$3,000,000 to \$5,000,000 each. In most cases they cannot be ready to turn out a pilot for many months.

CPT Has 538 Operators

Meanwhile, the CAA has a network of 538 fixed-base operators equipped to train pilots in all stages from primary up through instrument and twin-engine work. Admittedly their facilities are not so fancy as those being constructed for the Air Forces. Nevertheless, men they have already graduated have gone through Army schools with a lower washout rate than the Army has been able to maintain for its own pilots. Their graduates can take their place and hold their own in advanced Army and Navy courses. They already have been publicly credited with excellent performance on important missions and assignments.

The more than 500 operators, backed up by more than 600 hand picked colleges and universities, are getting set to fight for use of their schools, planes and instructors in the Army program. Many of them are faced with bankruptcy unless a few key military authorities have a change of attitude.

The Air Forces now has under contract about 50 civilian schools giving primary training to Army pilots who must later go into Army schools for advanced instruction. Many aviation officials contend that these schools should be giving nothing but advanced instruction while their primary work is turned over to CPT schools.

Many Planes Idle

A survey shows that while only about 2,650 civil aircraft are in use in various stages of CPT instruction, an additional 12,900 similar planes are available but are not now being used for training.

CPT is using over 700 Army-type trainers, but an additional 500-plus are not now in use. Of the larger cross-country trainers, CPT is only using 188 while 739 more could be obtained and put to work.

It is estimated that drawing in and putting all this unused equipment to work under CPT would provide immediate flight training for every recruit who has signed up but has been forced to wait until the Army can find a place to train him. Some of these recruits, while the Air Forces continues to call for more, are known to have waited since the first of the year and have been told it may still be several months.

In Ground Services

Evidently no provision has yet been made for the many CPT graduates who have been drafted into various ground services, want to get into combat flying with the Air Forces, and can't. No figures are available on just how many such men there are. It is estimated

(Turn to page 16)

IN THE DAILY

Fortnightly Review

American Aviation Daily has received continual praise for its reliability and speedy reporting since its first issue in Jan. 1939. The most recent public acknowledgment of its prestige was reproduction by the *New York Times* June 18 of the *Daily's* survey by Staffman Shawe showing that the Army is using less than a quarter of CPTP's facilities.

In order to quote the *Daily*, the *Times* winked at a rule which forbids it to credit other publications for news which its own big staff could have prepared. *New York Herald Tribune*, *Chicago Tribune*, and *Washington Times-Herald* also quoted the *Daily*, as they have numerous times before. Since the *Times* has been voted by U. S. editors as the World's Greatest Newspaper, and the *Chicago Tribune* claims the title too, it is safe to say that the *Daily* is recognized as an outstanding authority by—the World's Greatest Newspaper.

Another example of the consistently thorough coverage of air transport news was Staffman Bramley's exclusive story June 18 that PO & CAA looked with favor on single-engine ships for mail flights. CAB announced approval of such operations June 22. Every airline in the U. S. & Hawaii subscribes; most lines have quantity orders.

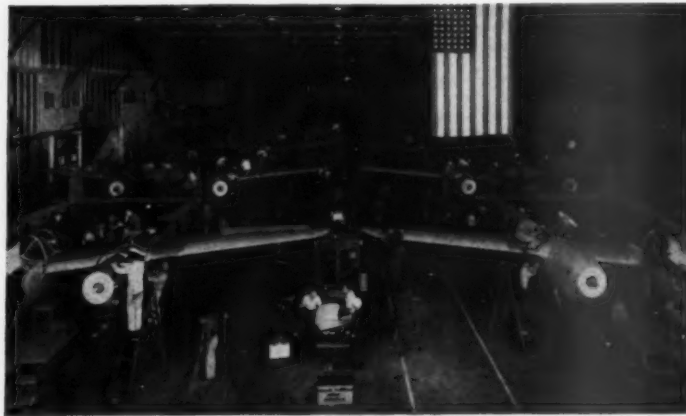
Daily readers knew the full story of proposed changes in Selective Service deferment plans days before they broke in the press. Staffman Campbell's day-by-day reports of labor trends and his recent interview with CIO's Frankenstein put subscribers on the inside track on the labor question.

Other features of the fortnight: Compilations of regulations of Army Specialist Corps. Full summary of NWLB's Ryan Aircraft order and decision. Complete text of Army's new airline seat priority rules. Text of report on Army's glider pick-up tests. Tax Prospects. WPB's new orders on Production Requirements Plan. Firms entering glider production. Summary of Gen. Arnold's latest address. Plus complete coverage of every development in Federal Departments and on Capitol Hill.

The *Daily's* Service Bureau (free to subscribers) now receives more mail from the industry on WPB and OPA than on activities of any other Washington offices. Manufacturers note a squib in their afternoon AP or UP newspapers about new regulations, wire the *Daily* immediately, and receive the text of the ruling the next day. Many of the government's activities never get into the press. There again AAD scores a national scoop.

Why not send for samples of the *Daily*—no obligation. Address: American Building, Washington, D. C.

—R. H. W.



Lockheed Lightning: Here in the final assembly hangar at Burbank, Calif., work goes forward 24 hours a day on the P-38's, now in mass production. Said to be the world's fastest warplane, with many high altitude advantages, the P-38 is expected to prove one of the formidable fighters of the U. S. Army Air Forces. The Lightning is powered by two Allison liquid cooled motors, has two super-chargers and is heavily armed.

Congress May Ask CPTP Probe

(Continued from page 15)

that as many as one third of all CPTP graduates are now in uniform, with a fair proportion now in flying jobs. Of those who aren't flying, many can't meet combat physical requirements. Many more perhaps don't want combat duty and may turn into service pilots. Most of them are anxious to get into a fighter plane and use it. They can't fight their way through the complicated procedure of getting out of the Quartermaster Corps or whatever it is, into the Air Forces. Meanwhile, green youngsters, needing many more hours of instruction, are being taken into Army schools.

For much of this it isn't reasonable to cry "Brass Hat." Too many good men in the Air Forces, and elsewhere in military service are burning themselves out trying to accomplish things they know must be accomplished.

In this pilot training case it is the men above the men who are doing the work who are being blamed. It is not a time for naming names. It is, however, no time for letting military prejudice, or civilian prejudice either, get in the way of using everything this country has to get the war fought and won.

Donald Nelson challenged American industry to stop thinking about next year and the year after. He called for material to go into airplanes and guns and tanks for this year's battle fronts, not for factories which would stagger the world in 1944.

Civil aviation and all its backers are getting set to put a similar challenge up to the military staff members who seem more concerned with seeing good accounts of their military prowess in the history books, than they are with getting the war won and done with.

Air Forces Seek New Pilot Rank

AWAITING Senate approval is a bill, introduced at the request of the War Dept., which in addition to creating the new designation of "flight officer" in the Army Air Forces will revise the present system of pilot training. All pilots will be trained in the grade of cadets. The Army at present trains some students for graduation as staff sergeant pilots.

The main purpose of the legislation, however, is to cut down on the number of aviation cadets being commissioned by the Air Forces. At present all Army aviation cadets are commissioned second lieutenants upon successfully completing their period of training. Under the proposed legislation, all candidates (including those at present being trained for the staff sergeant rank) would be trained in the grade of aviation cadets and upon completion of their training would be either commissioned as second lieutenants in the Air Forces, or appointed "flight officers." Appointments as second lieutenants or as flight officers would be "predicated upon ability and capacity for leadership as demonstrated by the individual's record during the training period." Enlisted men who have received training as aviation students may be appointed flight officers, and flight officers may be appointed by selection to the grade of second lieutenants.

According to Secretary of War Stimson: "The President's program calling for the training of thousands of pilots has necessitated that former minimum age and educational qualifications for pilot candidates be reduced. (This legislation) is to provide rank and grade for graduate pilots suitable to their ability and capacity for leadership."

The proposed legislation will cost the Government \$5,500,000, according to Stimson.

Army Command School to Train AAF Officers

A NEW COURSE featuring for the first time special training for the staff officers of the Army Air Forces, will be among three new courses included in the curriculum of the Army Command and General Staff School, which will start its ninth special two-month course July 11.

The increased importance of the air and armored units in modern warfare is responsible for the creation of the new courses, which will deal not only with problems of application for air, ground and armored units, but with problems of application in which these units are combined as task forces.

Several hundred officers will attend the school to receive basic and advanced instruction in the staff problems that confront officers attached to air, ground, armored and supply units. In addition to the training in principles of staff work, there will be special instruction in the duties of the four staff sections.

No officer will be selected for attendance at the school under the grade of captain, and preference will be given to officers who are under 40 and graduates of a special service school.

In granting allotments to the commanding generals of the varied arms and services, the War Dept. stressed the need for competent staff officers as a result of the organization of new units. Officers from the Air Forces will comprise 24% of the new student body.

Boy Scouts Form First Air Squadron

BOY SCOUTS of America put into commission the organization's first Air Scout Squadron at elaborate ceremonies held in Akron, Ohio June 24, before an audience of some 4,000 national figures in aviation, the rubber industry and fellow scouts.

The first unit of its kind comprises 38 young men, headed by Squadron Leader John R. Porosky, Assistant Harris H. Hart and 11 members of the Squadron committee, of which Ward T. Van Orman, internationally-known free balloonist, is chairman. The Squadron was sponsored by the Goodyear Tire & Rubber Co.

Air scouting provides experimental contact and understanding of aerodynamic principles in addition to model building. The program leads directly to civilian pilot training or other government flight instructions. "The Air Scout does not fly under the sponsorship of the Boy Scouts of America," said H. T. Foley, Akron Scout Executive, in explaining the program. "All his training leads to flying which is under government supervision and licensing."

In the front line of War Production ...a size and style for every use

With the addition of the two new types—Models 2267-A1 and 2257-B3—Bendix Aviation, Ltd., offers a complete line of Hydraulic Four-Way Selector Valves to meet all requirements.

The exclusive radial design, plus the use of Bendix-developed plastic poppets gives these valves tremendous advantage in speed of manufacture...ease of installation...and in better performance.

As the illustration shows, Bendix valves are available in single, dual and triple bank combinations. The co-axial shafts permit all handles to be operated simultaneously when desired. Other Bendix valves incorporate integral check and relief valves.

Bendix valves are being produced for War—on the fastest production schedules. Additional commitments can be taken.

BENDIX  *North Hollywood*

SUBSIDIARY OF BENDIX AVIATION CORPORATION

The new model
2257-B3
3/8" tube size with
integral check and
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Triple Bank
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The new model
2267-A1
3/8" tube size

Model 2245-B1
3/8" tube size with
integral check and
relief valves

Model 2245-A1
3/8" tube size

BENDIX AVIATION, LTD. HYDRAULIC FOUR-WAY SELECTOR VALVES

DISCONNECT COUPLINGS 


POWER BRAKE VALVES 


CHECK VALVES 


PRESSURE REGULATORS 


HAND PUMPS 


ACTUATING CYLINDERS 


HYDRAULIC ELECTRIC SWITCHES 

RESTRICTOR VALVES 

SEQUENCE VALVES 

HYDRAULIC SELECTOR VALVES 

TUBE CLAMPS 

CUSTOM BUILT RADIO 

Sikorsky Predicts Bright Future for Helicopters

GIVING the first detailed account of the development and flight tests of the VS-300 helicopter during 1941, I. I. Sikorsky, engineering manager of Vought-Sikorsky Aircraft Division of United Aircraft Corp., reports that 1941 saw the rotary wing craft grow "from an experimental laboratory model to an aircraft that embodies practical flying qualities."

Fundamental problems of control and stability appear to have been solved, Sikorsky said. He foresees a bright future for direct lift aircraft.

Future work remaining to be done will include refinement of controls already investigated, as well as research along many other lines of thought. "This will doubtless produce further improvement in the handling qualities of the aircraft," he believes.

The VS-300 is equipped with a three-blade main rotor of 14-foot radius and has a welded tubular steel fuselage and an auxiliary propeller for torque compensation and directional control, rotating in a vertical plane at the tail of the fuselage. During the early part of 1941, a 90-hp. Franklin air cooled engine replaced the previous 75-hp. unit in the aircraft and has supplanted the power ever since.

In addition to the torque compensating propeller, various control

propellers have been installed at the tail of the fuselage at various stages of development. During 1941 the tail propellers, including the one for torque compensation, were generally two-bladed with 46-inch radii. The main rotor in hovering flight turns about 260 rmp. and the tail propeller or propellers turn about five times that speed. A free-wheeling unit is installed between the engine and the rotor drive shafts so that the main rotor and tail rotors may continue to turn in an autorotative condition in the event of engine failure. Power is transmitted by means of a multiple V-belt drive and bevel gears.

Sikorsky declared that satisfactory flight and control characteristics were demonstrated on all test flights.

"The aircraft, without exception, always took off and landed with no ground run whatsoever, regardless of the wind velocity. It could rise and descend vertically on an inclined plane varying from 0 to 90 degrees; it could hover over one spot for any desired length of time and could be flown backward or sideways as well as forward.

Water Operations

"In forward flight, speeds upward of 60 mph. were reached, although the aircraft did not at any time approach its maximum.

"Precision control was repeatedly demonstrated by approaching persons or objects on the ground and hovering within inches of a given point, followed either by backing away or by proceeding sideways or forward in a routine manner. One example of this was the changing of a tire while the aircraft hung motionless just above the ground."

During the late summer and fall, Sikorsky reports, the aircraft was mounted on pneumatic rubber floats and extensive water operations were carried on within a range from 0 to 60 mph. and fast forward flights, sometimes low over the surface of the water were repeatedly made to demonstrate accuracy of control.

"On the surface of the water the aircraft was found to be more easily handled than any other surface vessel. It not only taxied forward and turned as other surface craft, but it could also be brought to a complete stop without disengaging a clutch or stopping the engine and be taxied backward without using a reverse gear.

"It could taxi sideways even against a strong current or wind and turn complete circles precisely on one spot. Because of the aircraft's ability to land and take off vertically, there was no problem of spray from the pontoons and no step was required."

During 1941, three important recorded flights were made by the writer as follows:

On Apr. 15 the VS-300 established



Unpopular: Captured on the Vega Airplane Corp. scrap pile, General Waste is a most unpopular fellow. Born entirely of materials that found their way to the scrap pile, the General has been hanged in effigy and deprived of his medals.

the official national helicopter endurance record by remaining in the air 1 hour, 5 min., 14.5 sec.

On Apr. 17 the helicopter, mounted on rubber floats, was repeatedly taken off from water and landed on water and then landed on the ground, demonstrating for the first time a direct lift aircraft with excellent amphibian characteristics on which no adjustments whatsoever are needed from going from water to land and vice versa.

On May 6 the VS-300 brought to the U. S. the official international record for helicopter endurance by remaining in the air 1 hour, 32 min., 26.1 sec.

Army Air Forces' 'Heavy Woolens' Soon in Discard

ELECTRICALLY-HEATED flying suits designed to keep aviators comfortable at 60 degrees below zero, will soon be issued to the Army Air Forces.

Many pounds lighter than the sheepskin suits they will replace, the new suits are not nearly so bulky. Pilots will have more room for manipulating instruments, controls and armament.

The temperature of the suits is automatically controlled to adjust to changes in the temperature of the air. The suit is the result of experiments conducted at Patterson field during the past winter, and of a test flight to Alaska. The tests were directed by Frank G. Manson, equipment engineer at Wright Field.

Aircraft Workers Told to Pool Use of Autos

AT a recent hearing of the House National Defense Migration Committee, Joseph B. Eastman, director of the Office of Defense Transportation, told Congressmen that unless Southern California aircraft workers revise their present practices of automobile transportation, the average life of their tires will be less than a year.

Testimony revealed that 90% of Southern California aircraft workers, 89% of those in the Detroit area, and 94% of those at the Glenn L. Martin plant near Baltimore commute to work by privately owned automobiles.

Wendell Lund, director of the Labor Production Division, WPB, reported at the hearing: "If normal driving habits continue, the visible supply of tires will not maintain auto transportation beyond the first quarter of 1943; and by Dec. 1943, the number of cars that are usable will have fallen to the catastrophic level of 10,000,000."

Augmenting the problem, Congressmen were told, is the fact that war workers will be more than doubled next year. Recent testimony before the House Appropriations Committee indicated that a minimum of 600,000 would be absorbed by the aircraft industry alone.

Both witnesses favored a decentralized solution: Eastman said that ODT is requesting mayors, governors and other local authorities who know most intimately their individual situations to take up the problem; Lund indicated that the most expeditious solution to the transportation problem would be obtained by labor-management groups in companies.

Suggested alleviations to the problem of transportation by Lund and Eastman were: (1) group riding; (2) staggering of hours; (3) limiting parking space; (4) "swapping" of labor according to home location near plants; (5) "swapping" of houses.

"If conservation of existing facilities is successful, as it must be, in making transportation equipment and material available," Lund said, "such equipment and materials must be allocated to places where there are shortages. Railroad passenger cars must be transferred from luxury runs to provide necessary transportation to outlying war plants such as the Glenn L. Martin and Ford bomber plants."

Both witnesses agreed that large-scale housing projects as a solution to the transportation problem were invalid, for the obvious reasons that they would draw on strategic materials and divert workers from war production.

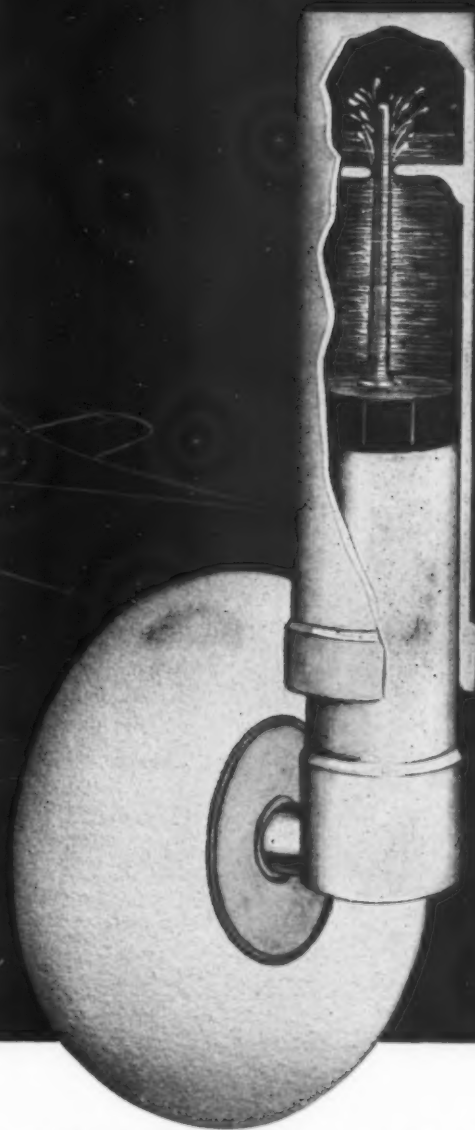
Eastman said that ODT is represented on the Plant Site Board and that increasing consideration in the selection of new plant locations has been given to the problem of transportation of workers by the Board.

DOUBLE DUTY DOUBLY ACTIVE

★

Continental, with other U.S. airlines, has been privileged to consign transport planes to military service. Other airliners continue scheduled service geared to essential wartime needs. Continental Lodestars are providing daily round-trip flights between Denver and El Paso via Albuquerque.

CONTINENTAL AIR LINES



FIGHTING OIL MOLECULES *insure* SAFE AIRPLANE LANDINGS

Eighteen years ago the landing of airplanes was revolutionized by the introduction of a new shock absorber called the Aerol Strut. The Aerol Strut transmits the force of the landing impact on the wheel into a cylinder filled with oil. Under intense pressure the molecules of oil fight with each other to escape from the cylinder through a small exit. The size of this exit is regulated by a metering pin. The struggles of the molecules dissipate most of the energy created by the shock of landing. Consequently, the plane rolls over the ground without bumping or jolting.

This type of landing gear quickly demonstrated its superiority over anything then in use. As a result, more Aerol Struts have been installed on airplanes than any other kind made.

But the engineers who designed Aerol Struts are not resting on their past laurels. While supplying struts for today's warplanes, they are continuing their research, developing vital improvements. When peace returns, when air transportation becomes a still greater mode of travel, Aerol Struts will continue to contribute to the progress of the aviation industry.

THE CLEVELAND PNEUMATIC TOOL COMPANY, AIRCRAFT DIVISION CLEVELAND, OHIO

CONTRACTORS TO THE UNITED STATES GOVERNMENT

Also manufacturers of Cleco pneumatic tools for the aircraft industry, Cleco sheetholders, Cle-Air shock absorbers for trucks and buses, and rock drills for mining and construction work.

AEROL *Shock-Absorbing* STRUTS

FIRST CHOICE OF AMERICAN AVIATION TO KEEP 'EM LANDING SAFELY AND SMOOTHLY

Carriers Recognized as Backbone of Fleet

500,000 More Tons Approved In Naval Bill

By KATHERINE E. JOHNSON

THE \$8,500,000 Naval expansion bill recently passed by the House—authorizing the construction of 500,000 additional tons of aircraft carriers—indicates Washington's decision: the carrier—and not the battleship—is to be the backbone of our fleet.

"The airplane carrier, with destroyers, cruisers, and submarines grouped around it is the spearhead of all modern naval task forces," Chairman Vinson (D., Ga.) of the House Naval Affairs Committee stated.

The House's action followed statements by several Senators that the Navy is abandoning plans to build five 60,000-ton super-battleships, authorized by Congress. Vinson claimed, however, that the battleship may return to its major role in Naval warfare—but only if aircraft carriers are wiped out in battle.

Vinson explained the omission of battleships from the vast Naval expansion bill—authorizing the construction of 500,000 tons of cruisers and 900,000 tons of escort vessels, as well as 500,000 tons of aircraft carriers—with two facts: (1) existing authorizations for capital ships will, when completed, provide an adequate number of battleships; and (2) it is anticipated and is borne out by the war so far that the loss in aircraft carriers, cruisers, and destroyers will be relatively much greater than in battleships, and, consequently, provision must be made for a large additional number of these types of ships.

"We all know that in the Coral Sea fight and in the Midway fight a determined effort was made by both sides to drive out and destroy the airplane carriers . . . If that happens, and neither side has airplane carriers to any great extent, then the battleships will come back into the role they were designed to play before aviation reached this high point of development," Cong. Vinson explained.

Rep. Mott (R., Ore.) of the House Naval Affairs Committee claimed, however, that "on the record of past performances, it will be a long time before the battleships come in, for this bill is calculated to prevent any such thing as an elimination of our aircraft carrier force by the enemy . . . It will give us a con-

11 Billion for AAF

The House has passed the \$39,417,827,337 War Dept. Appropriation bill for 1943, allocating \$11,043,270,000 to the Army Air Forces. Of the Air Forces' allocation, \$702,283,995 is for the payment of obligations incurred under previous contract authorizations.

For the fiscal year 1942, \$23,049,417,463 has been appropriated for the Air Forces. This total includes: \$204,007,800 carried in the First Supplemental; \$779,000,000 in the Third Supplemental; \$9,041,373,090 in the Fourth Supplemental; \$167,440,000 in the Fifth Supplemental; and \$8,515,861,251 in the Sixth Supplemental.

tinuing supply of carriers to meet any contingency."

On industry's side, Glenn L. Martin recently stated that "the public has realized for a long time that the battleship was dead" and that "carriers will continue to be the backbone for a considerable period."

With the carrier, though, Martin explained, the surprise attack is not as good as with land-based airplanes.

Vinson stated that the regular aircraft carrier requires 2 years to build; the battleship, 4 years.

Ships Converted

A large number of the 10,000-ton capacity merchant ships now being constructed on the west coast in 46 days are being converted to aircraft carriers. Vinson claimed that "although they have a great military value, they do not have the striking force of the regularly constructed aircraft carriers, and, in all probability would never be brought into direct contact with a modern airplane carrier." The converted merchant ships are being used by the Navy in certain restricted areas.

If the public knew, Vinson stated, "the number of airplane carriers that we are building, the number that is being converted, the number called for in this program, plus the number of merchant ships being converted," they would readily conclude that "the Navy Dept. is conscious of the great importance of aircraft carriers, and leaving nothing undone to bring about complete domination . . ."

Patent Law Extended

Congress has extended the time limit on an Act, expiring July 1, 1942, authorizing the Commissioner of Patents to withhold granting of a patent when such publication or disclosure of an invention might be detrimental to the U. S. The legislation is now to be effective for the "period when the U. S. is at war."

Navy Authorized To Quadruple Blimp Strength

RECENTLY approved legislation authorizing the Navy to maintain lighter-than-air craft at a total of 200 will more than quadruple the present Naval blimp procurement which is limited to 48.

The Navy's new blimp procurement authorization follows closely the \$25,000,000 appropriation (Sixth Supplemental) for blimp bases, which Chairman Vinson of the House Naval Affairs Committee states "have practically all been established—one in the Puget Sound area, one in Massachusetts, one in Florida, one on the North Carolina coast, two will probably be put on the Gulf Coast, one will probably be sandwiched in between Miami and the North Carolina base."

Cong. Vinson reports that the Navy is "making very rapid progress in completing its program for 48 blimps, over a dozen of which are in use today and accomplishing a worthwhile objective in the anti-submarine campaign."

Since 1938, the Navy has made a great stride in lighter-than-air craft procurement. In May of that year Congress authorized the construction of one training blimp (rigid, 3,000,000 cu. ft.). Two years later, Congress authorized the Navy to obtain not more than 18 non-rigids. Shortly afterwards the limitation was raised to 48.

War Training Provided

Congress has approved a \$9,500,000 supplement for 1942 for training of defense workers by the U. S. Office of Education.

The original appropriation for this purpose contained in the Federal Security Agency Appropriation Act, 1942, of \$52,400,000 was based upon estimates of enrollments and numbers of trainees prepared prior to the entry of the U. S. into war.

The \$52,400,000 appropriation was predicated upon 976,000 trainees in pre-employment and refresher courses and 736,000 trainees in the supplementary courses. Estimates revised on the basis of industry's increased demand for workers, indicate totals of trainees of 1,040,000 in pre-employment courses and 988,000 in supplementary courses—increases of 64,000 and 252,000 respectively over those originally planned.

Plant Funds Upped

Congressional action has been completed on the Seventh Supplemental Appropriation bill (Navy) for 1942, increasing the authorization for Naval aviation plant facilities by \$150,000,000, and appropriating \$8,300,000 for Naval Reserve pilot training.

FDR Asks More

The President has requested Congress for \$4,945,175 for the CAA as a 1943 supplement; \$1,218,375 for the establishment of air navigation facilities in the U. S.; \$3,647,900 for maintenance and operation of air navigation facilities; \$50,000 for technical development; and \$28,500 for maintenance and operation of the Washington National Airport.

The President's earlier 1943 supplemental request of \$36,677,450 for the CAA's civilian pilot training program will probably be included in an appropriation bill in the near future.

Congress Agrees On CAA Funds

THE CONFERENCE report on the 1943 Commerce Dept. Appropriation bill—which has been re-submitted to conference—reveals that House managers have approved all Senate additions for the CAA: \$3,675,000 for the establishment of air navigation facilities; \$199,740,000 for the development of landing areas; and \$519,600 for technical development. The total CAA allocation carried in the bill is \$269,032,600; the CAB allocation is \$1,243,500.

The House appropriated \$5,640,000 for the establishment of air navigation facilities; the Senate, \$9,315,000, making \$2,875,000 (for the construction of radiosonde and weather observation stations and for other extension and improvement of intermediate landing fields in Alaska) immediately available.

For Airport Paving

For technical development, the House appropriated \$380,000; the Senate, \$899,600, making \$519,600 immediately available. The Senate increase is for certain airport paving development projects in compliance with a special request of the Secretary of War.

Senate conferees, however, receded from the Senate amendment which would have reimbursed the President's Emergency Fund by \$2,000,000 from the CAA's civilian pilot training allocation of \$36,000,000. The \$2,000,000 had been advanced from the President's fund for financing an emergency project for the training of some 2,000 instructors and special-service pilots for the Army Air Forces.

Conferees compromised on an amount of \$18,000 for CAB's printing and binding. The Senate had cut to \$14,400 the House allocation of \$24,000.

TRIBUTE

to all Airline Customers

OUT of our nation's vast population there is a relatively small group of you who today deserve special recognition. You, the men and women who travel-by-air, have cause to feel proud. Because, without you, what tragic and unthinkable handicap might the United States be under in its present war effort?

Without your air-vision and your patronage, the Airlines could not have been developed into their high degree of effectiveness as a ready-made instrument for war in this, our nation's time of direst need.

You even have made possible much *more* than that.

Without your regular *use* of air transportation our aviation industry could not have had the air-frame, engine and instrument factories *which are the foundation* upon which, Aladdin-like, our war-plane expansion is being built.

* * *

You realized that we now live in an air-world. *You* thought air-thoughts. *You* made actual application of the advantages of airplanes to your travel and shipping needs. *You prevented our nation's transportation facilities from being limited to land and water.* For that, every man, woman and child in the United States is indebted to *you*. Our nation also will be indebted to you in the post-war competition for international trade, which will be waged in the ocean-of-the-air because it is your patronage which is indispensable to the further development of American air transport.

* * *

Now, the Airline industry, which you did not undervalue but did underwrite with your support, receives an Army directive to serve, first, the travelers and cargoes whose transportation is **MOST ESSENTIAL** to the war effort. Due to the imperative need for quick action the diversion of some of our planes for exclusively war missions is additional acknowledgment that there is no substitute for the time-saving advantages of air transportation. *It is also a new opportu-*

nity for you air-travelers to help the Airlines to make the most effective use of our present equipment.

* * *

Perhaps your need for air transportation now is greater than ever due to your war work. If so, we invite you to write us and tell us your problems.

Please call your American Airlines office in case you do not know *whether* you are entitled to priority or *how* to obtain it. Many of you who are engaged in war work, even though you may never have traveled by air before, are now *expected* to exercise your priority privileges.

You other customers are asked to cooperate, when necessary, by a willingness to accept different flights from those on which you may have wished to travel.

When there is a dangerous fire in your neighborhood and the traffic officer asks you to detour in order to give the fire department the right of way, what is your attitude then? This is the world's worst war-fire. Your neighborhood is menaced. All that you hold dear, including your life, is in grave danger. The Air-Lines are "Hose-Lines" necessary to help put out the spreading flames.

We are sure there is not one of you who would not cheerfully exchange a seat, for example, with a war pilot who must rush to the coast in order to fly a war-plane to the battle-front.

The United States, to measure up to its post-war global commercial responsibilities, will be dependent upon *increasing growth and expansion of our Airlines*, because the world trade-routes will inevitably be *air-routes*.

We salute you, *all* of you who are customers of *all* Airlines.


A. N. KEMP
President
American Airlines, Inc.

We have been flooded with questions asking how the recent Army orders affect the status of American Airlines, Inc.

BEFORE	NOW	BEFORE	NOW
OUR OBJECTIVE Better to serve the traveling public with direct competition with other Airlines.	OUR OBJECTIVE Forget competition except with the Axis Powers and dedicate ourselves to help WIN THE WAR.	MAINTENANCE AND OPERATION We have always enforced the most rigid rules for Maintenance and the highest standards of Operation.	MAINTENANCE AND OPERATION We continue these same standards in order to safely perform the important tasks assigned us.
PERSONNEL An adequate number of loyal and expertly trained employees.	PERSONNEL An adequate number of loyal and expertly trained employees essential to military projects and industry needs.	CUSTOMERS We were serving those who recognized the many advantages of air travel for which there is no substitute.	CUSTOMERS We now serve first those in the armed forces and on war missions whose travel is MOST ESSENTIAL . They are entitled to priority. We shall continue to serve the rest of you to the best of our ability and bespeak your cooperation.
ROUTES A national transcontinental system serving some 28 states with air transportation.	ROUTES These same routes have been declared of essential importance to the war effort.	RESERVATIONS You called your American Airlines office.	RESERVATIONS Please call your American Airlines office.
CITIES 59 of the leading cities of the U. S. interlocked with fast and dependable communication.	CITIES Important war production centers are joined together as one group by air transportation with the WILL TO WIN THIS WAR.	OUR OBLIGATION To operate a safe and necessary scheduled air transportation system for the public.	OUR OBLIGATION To operate a safe and necessary air transportation system for the benefit of the WAR PROGRAM FIRST and for the people of America.

AMERICAN AIRLINES Inc.

ROUTE OF THE FLAGSHIPS

NAA Resolutions

CALLING for a Department of National Defense, a long-range policy for domestic and foreign air commerce, an enlarged program of scientific aeronautical research, an adequate program of aviation education, and an investigation of aviation training facilities, the National Aeronautic Association established a new record in using forthright language in setting forth its demands for air action. At the annual meeting in New York the resolutions adopted were:

DEFENSE—"that the four primary elements of national defense should be immediately coordinated in a Department of Defense headed by a civilian Cabinet officer, with an assistant secretary for each the Army, the Navy, the Air Force, and Industrial Mobilization."

POLICY—"that the National Congress be requested to define an equitable long-range policy insuring that domestic and foreign air commerce will be freed from government war time regulation and permitted to resume development as free private enterprise as soon as possible after this war has ceased."

RESEARCH—"that the NAA does urge the Government to immediately undertake a comprehensive program of scientific research for the development of aeronautic equipment designed to meet the post-war needs of commerce and industry."

EDUCATION—"recommends to the educators of this nation that they establish an adequate program of aviation education to be made available not only through the schools of this nation but to be designed to employ the otherwise leisure hours of the youth of America to fit more adequately for careers in post-war aviation industry."

TRAINING—"that the Congress be requested to make prompt inquiry to determine why available aviation training facilities are not being utilized to the fullest possible extent and to determine how all such aviation training capacity can be employed to best advantage for victory."

WPA Airport Program

The House recently approved the 1943 WPA Appropriation bill, allocating \$20,000,000 for the construction of airport facilities. Last year's appropriation for this purpose was \$77,100,000.

WPA claims that during the 6½ years ending Dec. 1941, it has constructed 256 new airplane landing fields and improved or enlarged nearly twice that number.

At the end of March of this year, WPA was operating 1500 certified projects—348 of them airport projects on Army and Navy sites or on civil sites that are being converted to full or partial military use. Access roads to military and naval reservations and to war industries account for 139 additional projects.

Wilson Asks Statement of Policy on Post-War Aviation

The American people have a right to know whether the Government intends to "restore the air commerce of the flag as free enterprise as soon as expedient" and should announce its intention if it plans to do so, Gill Robb Wilson, president of the National Aeronautic Association, told the annual meeting of the NAA in New York June 19-20. He asked for a much more enlightened policy toward the whole field of air commerce.

He also called for a definite program of planning for the post-war period when aviation will have the means to keep in employment millions of people. Too many remember how production stopped when the Armistice whistles blew in World War I and it is up to the Government to allay this feeling of security which hundreds of thousands of aviation workers now have.

Regarding air commerce, the NAA head said:

"I would counsel the NAA to give the closest attention to that of the ultimate destiny of scheduled foreign and domestic air commerce. Properly the equipment and some of the personnel of the companies now engaged in such commerce are utilized in the war effort. We had hoped for their utilization intact as organized. It was not to be. This action is unquestioned but it has left a great degree of uncertainty as to the future of air commerce."

"I hold that air commerce properly belongs in the category of free private enterprise since it can if properly fostered by government sustain itself on the profit motive and provide social security for the quota of society therein engaged. If the Government believes this to be a fair criterion there should be an announced intention to restore the air commerce of the flag as free private enterprise as soon as expedient."

"Moreover the policy of economic regulation should be broadened and air commerce conceived of as a public necessity rather than as a mere agency of government. The conception that since the American people once had no air commerce and could get along without it in the future is as untenable as that once humanity ate raw meat and that therefore a stove is now a luxury."

"A fundamental starting point on the winning of a war is the knowledge of what one will have if the war is won. Uncertainty about such things as this is not healthy."

On the subject of post-war planning, he called for immediate Government action.

"A great number of people have been trained for and are now employed in the industry of aviation. They constitute a mighty social and economic force. The sudden dis-

ruption of their employment on war production would be the greatest single cause of unemployment in a post-war period. They remember that the whistles of the Armistice of the last world war announced a summary dismissal from employment. With such a sense of insecurity they must wrestle today. This should be allayed."

"The Government should not be planning a definite program for the employment of this vast number of citizens both for the period of transition from war to peace production and for the post-war era."

"This can be done if international credits are properly established and if research and development prepare the plans for the various types of equipment which will give immediate increased utility for the various fields in which the airplane can be utilized. Beyond question a problem of the peace table will be to prevent the dumping of war material on the post-war market. If this is done and the demand for aircraft starts from scratch we may save the aviation industry intact and so prevent unemployment in at least this one great field."

Without a planned program of aviation expansion the thousands of young men who have been taught to operate and service aircraft will be left drifting at the mercy of chance, he said.

"It is my hope that not until a world order is stabilized beyond question will this nation ever again place itself at the mercy of potential political upstarts. It is far more economical both in dollars and American lives to be safe than sorry. Yet the services will not have a place for all and for those who come out there must be found a place."

Turning to aviation education, Mr. Wilson said "probably no one knows less about this world than the school teachers."

"Our generation has lost its world. The best we can do to vindicate our excuse for being here without unduly encumbering the earth is to prepare the coming generation for life in a modern era. Our complete failure to give proper emphasis to the proper things has cost us the price of a world war. We have been so busy keeping the juke box playing on the ship of state that no one has had time to steer. If we turn another generation loose without any more knowledge of the world than we possess, they had better never be born."

Referring to the ignorance of school teachers, Mr. Wilson said the reason for this "is the same reason on which most elements of democracy run afloat. It is bureaucracy. Bureaucracy is the hardening of the arteries of democracy. Sudden change is hard on people who have hardened arteries. Ergo, the idea that today Chicago rather

NAA Officers

GILL ROBB WILSON, state aviation director for New Jersey, was re-elected president of the National Aeronautic Association for a third term at the annual meeting held June 19-20 at the Advertising Club of New York, in New York City. The small business meeting took the place of the large convention originally scheduled for Omaha and cancelled because of the war.

William P. Redding was re-elected executive vice president. Harry K. Coffey, of Portland, Ore., and William R. Enyart, of New York, were re-elected vice presidents, while the remaining position of vice president was left vacant temporarily. Robert Fleming, Washington banker, was elected treasurer, and Wayne W. Parrish, editor and publisher of *AMERICAN AVIATION*, was elected secretary.

Election of three new board members by mail ballot to fill vacancies was announced. The new members are: Stanley Wallbank, attorney of Denver; George P. Logan, attorney of St. Louis; and Lee Barrett, of Detroit.

Eight new members of the board were elected as follows: Mrs. Betty Gillies, New York; Asa Rountree, Jr., director of airfields for Alabama; Howard Wilcox, Kansas; Rudolph Mueller, Omaha; Thomas H. Beck, publisher, New York, (re-elected); Arthur Dudley, Sacramento Chamber of Commerce (re-elected); and C. R. Mooney, director of the National Aviation Training Association, Kansas City.

Five new national counsellors were elected: Bertrand Rhine, Los Angeles; Mrs. Mildred Duggan, Akron, O.; Percy McDonald, chairman of the Tennessee Bureau of Aeronautics, Memphis; Floyd Odium, New York financier, and Robert Watkins, Omaha.

About fifty persons attended the opening session at which the principal speaker was Robert H. Hinckley, Under Secretary of Commerce.

than San Francisco is the jumping off place for a trip to Tokio is literally incomprehensible.

"When one mentions 'aviation education' the mind immediately turns to training in aerodynamics, mechanics, draftsmanship. But it is not these things to which we refer. It is rather preparation to live in a world where human relationships are more closely interwoven than ever before. . . . In tomorrow's world we must study Spanish because we want to talk with Spaniards, we must study French history because we will be in daily contact with Frenchmen, we must be able to quote Tagore because he was the great poet of our many friends in India."

"Is it any wonder that the aviator, made conscious by his own experience, turns with anxiety to the educator and pleads for a new conception to be given to the boy and girl of America?"



FIRST

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Smith Reynolds Airport Dedicated at Winston-Salem

THE DAY before Richard J. Reynolds left Winston-Salem, N. C. for active duty in the Navy, his last official duty as mayor of the city was to dedicate the airline terminal which he and his family had made possible. It was June 13 and the townfolks turned out in droves to see an aerial monument that ranks as the finest airport building of any comparable city in the nation.

Multi-millionaire (Camel's) Reynolds, who has been treasurer of the National Democratic Committee as well as mayor of Winston-Salem, is a pilot in his own right (since 1926) and has more than one substantial financial aviation interest. The airport terminal which he dedicated recently is his pride and joy—and well deserved.

Designed by Howard Cheney, who designed the Washington National Airport terminal, the Winston-Salem air depot is the last word in utility and trimmings. There is a club room with luxurious fittings far beyond what the average aero club could ever expect to have and maintain. There is an air-conditioned dining room as tasteful as any in the nation. Without a doubt, air-enthusiast Reynolds has given his home town the finest building for a city of its kind in the nation and perhaps the world.

Right Size

It isn't that the terminal is large; it's just the right size for the city and volume of traffic at the airport. It's simply the exceptional utility and appearance of the building—the little extras that make it stand out as a gem among the rather motley aggregation of U. S. airport structures and shacks. As for the dining room, only Washington Airport (only in appearance since Washington's service and food is second-rate), LaGuardia Field in New York, and Union Air Terminal at Burbank, surpass it.

Winston-Salem's new terminal should easily be the model for many terminals to come throughout the nation.

Youngest Pilot

Mayor Reynolds was master of ceremonies for the dedication, feature of which was the unveiling of a bust of the late Zachary Smith Reynolds, after whom the airport is named. Young Smith Reynolds, who came to an untimely accidental death at the age of 21, left behind him a love for aviation in Winston-Salem and an extraordinary accomplishment up to the time of his death. He had flown at 16, and in 1929 was made the youngest transport pilot in the U. S. There are plenty of sound reasons why the airport should have been named after him and in Winston-Salem young Smith Reynolds is still mourned aviation-wise, and Richard J. Reynolds is carrying on the lore of the air by perpetuating Smith's name.

The townsfolk showed their appreciation of the terminal by flocking to the airport and watching Eastern Air Lines planes come through from the north and south. Prominent in the construction of the spacious airport and the building, and in the June 13 ceremonies, were Charles E. Norfleet, former president of the chamber of commerce and sponsor of just about all aviation activities in the city; Miss Nettie Allen Thomas, the mayor's secretary who is a chamber of commerce all by herself; and William K. Hoyt, general manager of the "Journal-Sentinel" newspapers, who is as air-minded as they come. Among the special guests were Smythe Gambrell, general counsel of Eastern Air Lines, of Atlanta, and R. S. Webber, assistant to the general manager of Delta Air Lines. W.W.P.



Mayor Unveils Memorial:

At dedication ceremonies marking formal opening of the Winston-Salem, N. C., airport, Mayor Richard J. Reynolds is shown above as he unveiled the memorial in honor of his brother, Smith Reynolds, for whom the new airport is named.

Part of CCC to CAA

The CAA will receive some of the 550 camps of the Civilian Conservation Corps for use by the Civilian Pilot Training program, the War Dept. has announced. The complete CCC holdings, including buildings and equipment valued at \$30,000,000 have been turned over to the Services of Supply of the Army for use in its expansion program by the Federal Security Administration.

CAP Completes Plans For Member Insurance

WASHINGTON headquarters of the Civil Air Patrol announces completion of final arrangements for master policies covering accident, crash and liability insurance for all active duty missions of the patrol. This coverage will be compulsory for all missions performed at the request of and with funds supplied by federal and state governments. Insurance is not compulsory for practice missions.

"Crash insurance covers certain damages to airplanes flying on active-duty missions under CAP operations orders. Accident insurance covers CAP members injured while flying on such missions. For loss of life, \$3,000 is paid, with lump sums for specific injuries. Both the crash and accident insurance are on hourly rates," CAP reports.

The liability insurance protects pilots, plane owners and others concerned with limits of \$50,000—\$100,000 for public liability and for passenger liability and \$50,000 for property damage on all authorized CAP flights, including practice flights as well as active duty work.

Liability insurance must be taken out by pilots before reporting for CAP active duty.

NAA Chapter Elects

The Greater Chicago chapter of the National Aeronautic Association has chosen James R. Graham, western manager of United States Aviation Insurance Underwriters as president for the coming year. Lewis M. Churbuck, president of Aeronautical University, Inc., Chicago, was elected vice-president. Other officers are D. Walter Swan, United Air Lines, secretary, and George M. Dunlap, treasurer. Directors of the chapter were re-named, with two new seats, to be filled by C. C. Thompson, vice-president of United Air Lines, and George F. Chard.



Winston-Salem Dedicates: Mayor Richard J. Reynolds of Winston-Salem presided at the formal ceremonies marking the opening of the Smith Reynolds Airport, named for his late brother, at one time the youngest transport pilot in the U. S. Photo on left shows the front of the terminal with the terrace dining room for summer use. In the center picture is seen the unique decoration in the main club

room. The airport runway map is made of thousands of bits of rare wood and is inlaid on a polished wooden backpiece. Instruments show the direction and velocity of the wind. Photo on the right shows the dining room mural on which is portrayed the history of Winston-Salem from its founding in 1776. The mural was painted by Charles Jenkins.

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Fortnightly Review

(Continued from page 1)

Perhaps it all goes back to the major point that there has been much confusion in Washington as to just what kind of war we are fighting. The object lessons since September, 1939, haven't been sufficient to convince all of those who are in high positions that this is a war of movement, a war of air operation, a war of airplanes and pilots, a war that is not on the fixed pattern of 1917-18. It is also a war in which the entire civil and industrial resources of the nation must of necessity be mobilized and utilized. It is everyone's war and everyone has a part in it.

If there is any one source of trouble it has simply been the lack of understanding and comprehension of air power on the part of most of our leaders. Or to put it another way, too few have had the insight into what is needed. Events and circumstances have altered the thinking in Washington to a considerable degree, but the change has come all too slowly. This present global war requires new thinking, new planning, new directions.

And so it is perhaps no surprise that there is a vast amount of aviation resources not being used at the present time. It would be relatively simple, however, to put them to use once the major premise of pilot needs is understood and determined. We need all kinds of pilots for all kinds of purposes. Some day the old idea that the airplane is only for strictly combat use must be knocked out for good. Some day our national leaders must realize that the way to fight an air war is not to shove pilots and would-be pilots into the draft to peel potatoes. We need all the pilots and all the training facilities we can get. It might be a healthy thing if Congress gives the subject an airing—if an impartial and intelligent committee can be found.

Stab in the Back

NOT many months ago the airlines were faced with injurious competitive advertising from the Pullman Company. Latest swat at air transportation comes from Western Union Telegraph Company and Postal Telegraph-Cable Company with as unfair a type of harmful competitive advertising as could be conceived. Both companies have sent promotion material to their large customers expressing either vicious inferences or direct lies. Ironically enough, copies of their advertising messages went to the airlines and even to the Post Office Department.

Of the two companies, Postal Telegraph was boldest in its prevarications. It told its customers in part: "Due to war requirements, marked reduction in air transport schedules has been announced in official newspaper releases from Washington, causing extensive curtailment in air mail service. The italics are ours. Western Union said: "Sharp curtailment of air transport necessitated by war demands, as announced in official newspaper releases from Washington, indicates an extensive reduction in air mail service." Again the italics are ours.

The telegraph circuits are so jammed up with business right now that service has been scandalous. Local telegraph deliveries are hours late. If there has ever been a time when telegraph service has been unreliable, it is today. Try and get service. Yet these companies strike out unfairly at the air mail without checking up on their facts. The air mail service has not been curtailed in any essential or major feature. Even the suspended routes in sparsely-settled areas are being resumed with single-engined equipment. Heavier air mail loads than ever are being carried, as witness the report in this issue showing a record volume out of New York City. The airlines are carrying the air mail and doing it efficiently and with dispatch.

To Mr. A. Simon, general manager of Western Union, and to Mr. C. Hitchen, general manager of Postal, who signed the messages to their respective big customers, please examine the facts before putting out such rubbish. And to you, dear readers, we're going to stick to air mail and the telephone. It's time to call a halt to vicious competitive advertising in war time. Pullman pulled in its horns and the telegraph companies should do likewise.

Both Western Union and Postal are public utilities. The regulatory body under which they come is the Federal Communications Commission. We hope the air transport industry makes proper use of this agency for disciplining the telegraph companies.

Absent Again

THE Aviation Writers Association met en masse in Washington in mid-June and were treated to a full taste of the enlightened and cooperative public relations policy of Col. Arthur I. Ennis, director of public relations for the Army Air Forces. They were also treated to the most enlightened demonstration of sound public relations we've seen from the industry to date—courtesy of the Aeronautical Chamber of Commerce. The writers could not have helped but learn much during their three-day stay in the national capital, and the various individual companies who helped the Chamber to make the writers feel welcome all deserve credit—Glenn L. Martin Company, Boeing Aircraft Company, Fairchild Engine & Airplane Corporation, Curtiss-Wright Corporation and Sperry Gyroscope Company.

One air transport company, Pennsylvania-Central Airlines, played host too, but it was noteworthy that the Aviation Writers Association received no approach from the Air Transport Association directly or indirectly for hospitality or courtesies. Yet the ATA has a public relations problem second to none in the aviation field and the aviation writers are the industry's sympa-

thetic and knowing links with the public and press. The Army, the Navy, the CAA, and the manufacturers were much in evidence; the ATA (except PCA) didn't even express regrets for its absence.

Air Transport Laboratory

IN OUR last issue Mr. E. J. Foley, our equipment news editor, proposed the establishment of a non-profit Air Transport Laboratory for practical aeronautical research and testing. Mr. Foley's proposal has great merit. It is something the airlines, the manufacturers and the government should study carefully.

Those in aviation know how far behind the United States has lagged in aeronautical research laboratories. The National Advisory Committee for Aeronautics has skimped along for years with niggardly budgets. Every year it faces a fight before uninformed legislators for its appropriations. With all of the handicaps and small budgets, however, it has managed to keep the U. S. in the front of important scientific developments. But all of the NACA research is pure science—fundamentals. The NACA provides only one of two essential scientific functions. The other is something civil aviation has never had—a practical testing laboratory to utilize the findings of fundamental research.

The Army has its Wright Field. The Navy has its own testing facilities. Civil and commercial aviation have had nothing comparable. An impartial, expert and well-sponsored laboratory should be No. 1 on the long-range program for civil and commercial aviation. It doesn't matter so much who starts it so long as we get it in time to keep pace with world aviation. We commend Mr. Foley's proposal, for close study and subsequent action.

Letters

Still No Planes

(Under the head "13 Years With the Wrong Airline," AMERICAN AVIATION for May 15 reported that the post office at Los Angeles had endeavored to deliver a parcel of documents from CAA to Maddux Air Lines, which has been out of existence since 1929. The story said that the address "was imprinted by an addressograph plate which the CAA had inherited from the old Bureau of Air Commerce and evidently had remained in the file since 1929." The following answer has been received from Charles I. Stanton, Acting CAA Administrator):

Washington, D. C.
You had your fun at our expense in the May 15 issue of AMERICAN AVIATION, and I confess that the story startled me. When I made inquiries about it, it turned out to be not quite as it first appeared. We don't happen to have such an addressograph plate in our mailing office, so the address was put on the envelope by typewriter, one character at a time.

As you probably recall, the emergency regulation adopted at the request of the Army required us to have a record of the operating base of all active aircraft in the country, and a record of the place of storage and condition of all inoperative aircraft. That required that we endeavor to run down the aircraft which our records did not show as having been scrapped or sold out of the country.

The records show two aircraft, owned by Maddux Air Lines, which had never been cleared off the records. They may have been sold without our being notified; they may be stored; or they may have been wrecked. The point is that, while the numbers still showed up as being under Maddux Airlines, some attempt had to be made to reach the person or persons who have knowledge of what happened to them. The questionnaires were mailed in the hopes that somehow they would find their way to such persons. They did not, and were returned. The license numbers go on the list of unlocated aircraft and if they ever turn up, they get jumped on.

CHARLES I. STANTON,
Acting Administrator

Civil Aeronautics Administration
(To Charlie Stanton, thanks for the clarifying statement. To Maddux Air Lines, a slap on the wrist—retroactive to 1929—for causing CAA to "lose" two airplanes—ed. note).

Winston-Salem, N. C.

I have been a subscriber to AMERICAN AVIATION since its earliest days, and for some reason, possibly because your coverage of aviation news is so thorough as to make me feel that I need no other publication, I do not subscribe to another aviation magazine.

CHARLES E. NORFLEET
Wachovia Bank and Trust Co.



"He must be okay. Here's his diploma from the Vulcan Aircraft Institute."

Obituary

Maj. Gen. C. L. Tinker

MAJ. GEN. CLARENCE L. TINKER, 54, Commander of the Hawaiian Air Force, U.S.A., is reported missing in action following an attack on the Japanese fleet, east of Wake Island, June 7. Maj. Gen. Tinker, a member of the Regular Army since 1912, joined the Air Corps at March Field in 1920, subsequently being assigned to posts at Fort Sill, Okla., Fort Riley, Kans., and then to London, where, for rescue work at the scene of a crashed and burning plane he was awarded the Soldier's Medal. General Tinker returned to the U. S. in 1927 and for the next 12 years held assignments ranging from Washington to California. He was promoted to Major General on Jan. 14, 1942 and assigned to command the Seventh Air Force, Hickam Field, Hawaii, with the rating of a command pilot and combat observer.

According to information released by the War Department. General Tinker's plane was descending rapidly when last seen by other members of the flight which participated in the Wake Island attack. The area was thoroughly searched by airplanes and surface craft for several days without results.

Edmund M. Toland

Edmund M. Toland, 43, general counsel for the House Naval Affairs Investigating Committee, and a prominent Washington attorney, died of heart disease in Washington on June 4.

A native of Boston, Mr. Toland

graduated from Georgetown University in 1924 and was admitted to the District bar the same year. During the NRA, he was a member of the arbitration board for the motion picture industry, later becoming general counsel for the special House committee investigating the National Labor Relations Board. Since March, 1941, he has been connected with the House Naval Affairs Committee, which has been investigating naval contracts, including aviation.

Mr. Toland is survived by his wife and six children.

Harry O. Young

HARRY OLIVER YOUNG, 52, organizer in 1929 of Canadian Colonial Airways and a prominent figure in Canadian aviation circles, died in Montreal, June 12. During World War I he served with the United States Army, holding the rank of a captain.

James P. Carey

JAMES P. CAREY, 73, founder of the James P. Carey & Co., transportation enterprises at Grand Central Terminal, N. Y., died June 11 following a long illness. He was active until 1940 in the operation and management of bus, automobile and airport transportation services.

Lieut. Comdr. Rounds

LIEUT. COMDR. CLINTON S. ROUNDS, 38, U. S. Navy, was killed in the crash of an airship near Lakehurst, N. J., June 8.

What Others Say

MAJ. AL WILLIAMS—"What has any battleship done to date but sink?"

CHICAGO JOURNAL OF COMMERCE—"Donald M. Nelson's appointment of a special committee to investigate immediately the use of air freighters to fly war cargoes will be quite generally regarded as a highly important, if somewhat belated, step forward in the war transportation set-up."

WASHINGTON DAILY NEWS—"This newspaper does not profess to strategical omniscience. But to us, as it must to millions of other laymen, the events of recent weeks suggest that perhaps the high command should take another look at its cards and consider whether the current ratio between naval spending and ground-army spending and airpower spending should not be sharply revised in favor of the airplane."

NEW YORK TIMES—"Congress has shown good judgment in increasing the appropriation for lighter-than-air craft, in view of the excellent work that blimps have done in anti-submarine patrol. The special characteristics of the airship, and particularly its ability to move slowly, to hover, and even to anchor at sea, make it an effective weapon against raiders on coastal shipping. . . . In the face of the submarine menace we should make all the use we can of these lighter-than-air weapons."

WASHINGTON POST—"It is quite clear that Allied air requirements now necessitate the production of fighters for specific purposes. The all-purpose fighter, such as was in operation early in the war, is a phenomenon of the past."

OLIVER LYTTLETON, Minister of Production in the British War Cabinet—"Night by night great armadas of heavy bombers are striking at the vitals of Germany. These attacks are going to get bigger. By a coincidence, out of 1,036 bombers which raided Cologne the other night not one happened to be American-built. The American-built bombers which we have in large and growing numbers will soon show the Nazis that though they started the bombing we will finish it."

Martin Donates IAS \$450,000 For Research

GLENN L. MARTIN, president of the airplane manufacturing company bearing his name, on June 20 established an endowment fund for an aeronautical research laboratory for the Institute of the Aeronautical Sciences.

Mr. Martin has agreed to give to the fund 25,000 shares of Glenn L. Martin stock which has a present value of over \$450,000. This stock will be given at the rate of 5000 shares a year for the next five years.

The endowment will bear the name of Mr. Martin's mother, Mrs. Minta Martin.

"As my mother has for so many years been such a firm believer in the possibility of the airplane, I hope that her expectation of even greater future developments will result from the uses made of this fund which bears her name," Mr. Martin said.

He praised Mrs. Daniel Guggenheim for giving the Institute the Long Island home of her late husband, and said that the endowment would enable the organization to take the first steps in using the estate.

"As the effects on pilots of high altitude flying is one of the great problems requiring intensive study, I hope that from the large laboratory building which the Council of the Institute has named The Minta Martin Aeronautical Laboratory developments will come which will make flying in the stratosphere more comfortable and safer for our combat pilots," Mr. Martin said. "It is also important that after the war passengers be flown at higher altitudes."



\$450,000 From G. L. Martin
Maj. Gardner (left) Accepts

Guggenheim Property Gift to Aero Science

Mrs. Daniel Guggenheim, widow of the prominent pioneer benefactor of American aviation, recently presented her 162-acre Long Island estate to the Institute of the Aeronautical Sciences, the gift to be used for the establishment of a center for aeronautical research and study.

Announcement of the gift was made in New York by Maj. Lester D. Gardner, executive vice-president of the institution, who declared the property would enable the institute to make a direct contribution to the war effort by providing exceptional facilities for experimental aeronautical investigations by specialists, and that it also would be of marked value in the postwar development of commercial and civil aviation.

The late Mr. Guggenheim was the founder of the Daniel Guggenheim School of Aeronautics at New York University with an endowment of \$500,000 and in 1926 created the Daniel Guggenheim fund with deeds of gifts totaling \$2,500,000 for the promotion of aeronautics throughout the country.



Guggenheim Gift: This beautiful residence and surrounding estate, comprising 162 acres at Sands Point, Long Island, have been given by Mrs. Daniel Guggenheim to the Institute of the Aeronautical Sciences as a center for aeronautical research and study. Glenn L. Martin's \$450,000 endowment fund will enable the Institute to take the first steps in using the estate.

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ONCE Middlesex villages and farms heard the clatter of Paul Revere's horse. Today, they hear the drone of giant motors and see the shadow of great wings! It's an American Airlines Flagship on a mission for Democracy. For now, time is of the essence, and American Airlines is playing a vital role in linking the states.

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B.F. GOODRICH RUBBER RESEARCH FOR THE

Aviation industry



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Yes, rich, luxurious rayon! The fibre from which milady's gay summer dress is woven. It's this same fibre which B. F. Goodrich research found to be of great value for Silvertown Airplane Tires.

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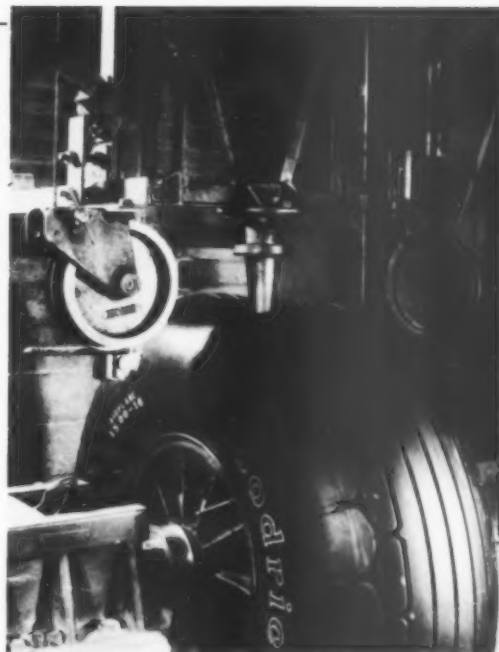
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DRIVING BLIZZARDS MADE TO ORDER! That's how the B. F. Goodrich Laboratories produce severe flight hazards to test B. F. Goodrich De-Icers. Zero winds rush through this huge wind tunnel. But the pulsating action of the De-Icers attached to the leading edge of the test wing breaks the ice right off!



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BRAKES GET PUNISHED MERCILESSLY! Sudden stops > and starts show what vital brake control B. F. Goodrich E. T. Brakes give a plane . . . whether it weighs a half ton or is a 33-ton giant. When the braking fluid enters the Expander Tube, it forces sectional brake blocks against the brake drum, bringing the plane to a quiet, smooth stop.



STRETCHED BEYOND ENDURANCE, > the Expander Tube in a B. F. Goodrich Brake has to prove its ability to take the tremendous changes of climate found in the modern theatre of war. Temperatures from 70° below to 800° above freezing are produced in this coil. Then an Expander Tube is inflated and deflated thousands of times to discover when it will fail.

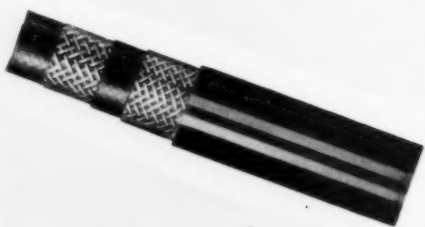


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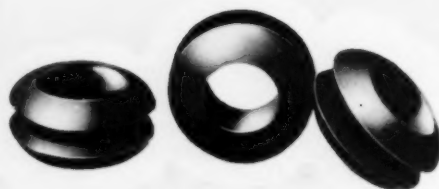
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Application of a braking fluid under pressure causes the B. F. Goodrich Expander Tube to expand uniformly under a full circle of brake lining blocks. When these blocks are forced against the revolving brake drum, the plane comes to a sure, smooth stop and completes the "happy landing" both safely and comfortably.



B. F. GOODRICH FUEL AND OIL HOSE is made with a synthetic tube and braided inserts. The synthetic rubber is gasoline resistant, and prevents peeling and swelling.

B. F. GOODRICH DE-ICERS are being installed on this Flagship. The action of the De-Icers on the leading edge of wing and tail surfaces breaks up ice as it forms and allows it to be carried away in the slipstream. All the leading airlines in this country equip their planes with B. F. Goodrich De-Icers.



B. F. GOODRICH GROMMETS are designed to carry fuel lines and control cables through the fire wall and bulkheads; to allow entrance of the control cables through the fuselage; and for many other places where it is desired to absorb the vibration of cables and wires.



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Inland Cities Seen As World Trade Ports

Seaports to Lose Advantages Over Midland Areas

THE development of air freight will revolutionize world commerce and will make inland cities important foreign trade centers, according to Wayne W. Parrish, editor and publisher of *AMERICAN AVIATION*.

Speaking before the Atlanta Chamber of Commerce on June 11, Parrish predicted that inland cities such as Atlanta, St. Louis, Chicago, Detroit, and Ft. Worth will be as important as ports of foreign trade as the seaports are today. In fact, he said, some of them will be much more important than some of the largest seaports.

"What Kipling calls the chapter of endless possibilities lies before us," he said. "The day-by-day accomplishments of the airplane, and the almost fantastic developments in production and design, are paving the way for a post-war era of incredible patterns. I should like to transmit to you some of these possibilities and translate them in terms of Atlanta and Atlanta's front yard.

"Last week, a few days after I had informed Mr. Jones that I would be here today, he was kind enough to send me a very interesting book published in 1928 by Mr. Ivan Allen called 'Atlanta From the Ashes,' a book with which you are all doubtless familiar. I delved into it immediately and found it extremely interesting. One paragraph and one map caught my attention particularly.

"In summarizing the story of Atlanta as a natural railroad focal point and Atlanta's rise as the commercial center of the entire southeast by reason of this strategic railroad position, Mr. Allen wrote this sentence: 'These eight railroad systems operate fifteen main lines radiating from Atlanta and reach overnight a population of more than eighteen millions of people.' The accompanying diagram map of the southeastern part of the United States had a circle outlining the overnight distances that could be reached from Atlanta by rail, and within this circle was all of Georgia and South Carolina, most of Tennessee and Alabama, large portions of North Carolina and Kentucky, and smaller portions of Virginia, Mississippi and Florida. You may recall that the caption on this map included the statement that 70,000,000 people could be reached in 24 hours from Atlanta. That was by rail and that was 1928.

"Here was Atlanta's overnight trade span of 14 years ago. Not the entire Southeast by any means, but a goodly portion of it. Here was Atlanta's commercial front yard, the measure of travel from sun-

down to sunup. Of course freight transportation was on a much smaller scale, for at that time the national average on speed was not more than 11 miles per hour. But for passengers, Atlanta reached a large portion of the nation's population within 24 hours, even though this 24-hour range did not take the Atlantan into the real West.

Opening Verse

"We are now in the opening verse of the opening page of this new chapter of endless possibilities—the airplane and the air age—which is destined to work so many changes in the social, economic and political life of the world of tomorrow. In the days before the railroad, man traveled but little. The average person rarely moved outside his own little community except in periods of migration and expansion. Even the mass movement of people by railroad came slowly, for the average person traveled rarely and relatively short distances for much of the railroad's early history. It was the automobile and the highway, with their flexibility of travel patterns, that really brought the first freedom of movement by man over the earth, and this development of the individual vehicle brought a concurrent greater use of the railroads and buses. Then came the airplane to draw cities, states and nations closer together, not gradually, but by sharp and rapid shrinkages. This gradual increase in the annual travels of the average person throughout man's history will reach greater and greater heights with the airplane. For the first time the average man—not just the few hundred thousand who have been doing the bulk of traveling—will move about in the air ocean with the same ease with which he has moved about in his automobile during the past twenty years. For the first time the average man will find out firsthand how other peoples of the globe live.

"The front yards of every community are being pushed farther and farther into all parts of the world. Today Atlanta's front yard is far greater than it was in 1928 when travel was limited to surface means. Tomorrow those overnight travel circles will be still further extended. For example, the 18,000,000 who were within overnight rail reach of Atlanta have already expanded to 200,000,000.

"But much more startling is the number of 24-hour neighbors you have today and will have tomorrow. In 1928 by the limitations of surface travel, it was impossible to reach more than 70,000,000 people within 24 hours. In the immediate post-war period, based upon facts and not fancy, those 70,000,000 persons will be multiplied to no less than one billion persons. Half of the world's population will be reached within 24 hours by air from Five Points down here at the end of Peachtree Street. The expansion of Atlanta's front yard is fantastic, but the dream world of the air, which we all talked about and read about in the Sunday supplements a decade ago, has turned into reality with astonishing rapidity as a result of the war. The business, commercial and cultural outlook of every city in the United States must be radically altered to meet the tremendous and historic changes which the airplane is bringing today.

"And by the same measurement, since you won't need to draw circles on maps to outline your commercial front yard, there will be very few points on the earth's surface that will be more than 48 hours from Atlanta by air.

"Your 24-hour neighbors will be in all of Europe, all of Africa, all of North and South America, and part of Asia thrown in for good measure.

"Let's back up and look at Mr. Allen's map again to gauge our sights properly. On the map Jackson, Mississippi was overnight by

rail. Today in 1942 it is only two and one-half hours by Delta's speedy service and your overnight plane trip lands you in Los Angeles by eight A.M. Going northwest, Louisville is overnight by rail, but is only two and three-quarters hours by air and if you fly through the night you'll end up at Pendleton, Oregon at eight in the morning, or Seattle three hours later. Going north, your overnight train puts you somewhere in southern Virginia, but by air your overnight air journey takes you out of the United States into Canada—to Halifax, if you want to go there. After all, New York City is only five and one-half hours from here by air.

"To the southwest, suppose you forget about getting on a train early in the evening, and go to a movie instead. Then board the plane at one-ten A.M. and be in Mexico City by noon, or in Guatemala City for dinner that same day. Going south, Jacksonville is overnight by train, but Miami itself is only four and one-half hours by air, and the Canal Zone is only six hours more. Or a 12 or 13 hour trip from Miami puts you in colorful Port of Spain, Trinidad, in sight of South America.

Only Rehearsals

"I mention these examples of 1942 because they are but rehearsals for the air transportation of tomorrow. Our present-day commercial airliners plod along in the air ocean at about 165 miles an hour, but our planes of tomorrow, which are not on the drawing boards at all but are in reality today, will cruise at 280 miles an hour. In other words, air transportation today is about four times that of surface travel, hence your overnight trade area is just that much bigger today over 1928. But in the immediate post-war period, this four-to-one ratio will be stepped up at once to seven-to-one.

"Today it is three days from Miami to Rio, Brazil, by air, and four days to Buenos Aires, because there is no night flying, and that's quite an improvement over the two weeks steamship trip required to Rio from New York. But Pan American Airways is planning a twenty-hour air service from New York to Buenos Aires after the war. Plans are being made for a twenty-four hour service from the United States to China. Every capital of Europe will be less than twenty-four hours from Atlanta. Just over the Pole is Moscow, a matter of hours, not days, from Peachtree Street.

"We're just beginning to find out that the world is round. Not only does the airplane travel faster, but the airplane is the only vehicle that can travel the shortest distance between two points on the earth's surface, and this shortest route is a curve over the globe. For example, the straightest route from Tokio to the Canal Zone is not across the

(Continued on page 41)



Talks on War: More than 300 employees of Pennsylvania-Central Airlines gathered in one of the company's hangars at Washington National Airport recently to hear President C. Bedell Monro outline the responsibility of all employees in connection with the war effort. A transcription of his talk was made and is being sent to the company's 18 other stations.

Priorities Tightened; Discounts Suspended

Civilians on War Work Recognized; Scrip Continues

By ERIC BRAMLEY

TRAVEL priorities on the domestic airlines are now being issued only for urgent passenger and cargo transportation, major inspection trips by the highest officials in the war effort, and if a mission cannot be accomplished by train travel.

This new policy, developed by the Air Division of the Army's Transportation Service, was placed in effect June 20.

In the past, the War Dept. explained in announcing the new system, military personnel had been given precedence over civilians in classification. Now, civilians performing important war tasks have an equal footing. The War Dept. added that unnecessary disruption of commercial travel will be avoided.

On July 1, the airlines suspended all special and discounted fares for the duration of the war and six months thereafter. This includes the discount on round trip tickets, the special government discount and the 15% discount applicable under the air travel plan.

The Army's action in tightening the priority system was looked upon with favor by the industry. Many abuses had been reported under the old system. The airlines' suspension of discounts was expected to increase their passenger revenues by 6% or better.

The new priority classifications are as follows:

(1) White House personnel or others for whom air transportation is directed for accomplishment of a particular mission by the President, the Secretary of War or the Secretary of the Navy.

(2) Airplane pilots of the Army, Navy and Marine Corps ferrying commands whose orders specifically direct travel by military or the fastest available commercial aircraft.

(3) Army, Navy, Marine Corps, Coast Guard and Allied government military personnel or others whose air travel specifically is ordered, and civilians whose air travel is essential to expedite war production, construction, or similar activities.

(4) Army and Navy equipment,



10 Per Cent Club: Northwest Airlines has started a Ten Per Cent Club, composed of employees who pledge at least 10% of their earnings for the purchase of War Bonds. In the picture, Croil Hunter, president (right), signs the first pledge, while John Parker, a director (left), and A. E. Floan, head of the company's bureau of economic research, look on. Slogan of the club is "Pledge 10% for 100% Victory."

ammunition, supplies and materials essential to the war effort when specifically ordered moved by priority air transportation by the War Dept.

"An individual of the armed forces or a civilian engaged in the war effort is not entitled to priorities unless his mission justifies it," it said.

Special approval will be required for air priority on trips requiring less than two hours, and if the destination can be reached within six hours of the desired departure time.

Under the new program, the Military Director of Civil Aviation issues directives to the airlines on priorities established by the chief of Transportation Service as necessary to the successful prosecution of the war effort. Compliance with these directives is mandatory upon the air carriers.

Another important step was the decentralization of the administration of priorities, which in virtually all instances in the past had to be cleared through Washington.

"Establishment of priorities will now be done through the Air Priority Branch, Air Division, Office of the Chief of Transportation Service, and 14 regional air priority control offices to be established Aug. 1 throughout the nation," the War Dept. said.

The field offices will be located in New York, Washington, Miami, Memphis, Dallas, Kansas City, Chicago, Detroit, Pittsburgh, Los Angeles, San Francisco, Seattle, Denver and Dayton. Each will be headed by an Army officer who will have a small staff to aid him in maintaining service on a 24-hour-a-day basis.

"These offices," the announcement said, "will furnish an 'on the scene' authority to establish and approve priorities, which previously had to

PAAF Graduates First Mechanics At Miami School

PAN AMERICAN AIR FERRIES, mechanics' school at Miami, which on June 13 turned out its first graduating class of 77, will furnish a continual flow of skilled technicians vital to the war effort from now on, according to summaries of the school's advance program as released by John A. Steele, operations manager.

Originally established to supply ground crews necessary to keep the big bombers flowing across the south Atlantic, popularity of the course immediately caught on and in spite of rigid requirements, hundreds of applications are rolling in from all parts of the country. They are divided into two groups, junior engine mechanics and junior aircraft mechanics, the former courses being concentrated on engines, welding, instruments, propellers, refueling and aircraft and civil air regulations. Junior aircraft maintenance students are trained in tubular instruction, welding, sheet metal, woodwork, dope and civil air regulations. Both courses require 288 hours of instruction.

be obtained in Washington, will acquaint local warplant officials with the means of obtaining essential priorities quickly, and will take the necessary steps to prevent unauthorized persons from obtaining the right of way travel status.

"Under the program, reservations for seat or cargo space, after priorities are granted, will be made directly with the air carriers through their regularly established agencies, just as in the past."

In letters to travel plan subscribers, the airlines emphasized that although the discount was suspended the remainder of the plan remains in effect.

After explaining the suspension, the letters said: "There are no other changes in the air travel plan you hold. All of its other benefits will remain. All airlines listed on your air travel cards will continue to honor those cards. The transportation purchased by you will be furnished on account, as in the past, and charged against your air travel plan deposit at full fare. Your people need not carry money with them for the purchase of air travel, and our statements will continue to provide a valuable record of your expenditures for air transportation. You will find the air travel plan as easy to use and as convenient as ever."

With the exception of a few national agencies, the airlines have also discontinued the payment of a 5% commission to travel agencies, hotel porters, etc. on tickets. It was expected that local agencies will institute a service charge.

Also out the window for the duration is the half fare charge formerly made for children between the ages of two and 12. They now pay full tariff.

Obvious Conclusion

Prize accident report to come out of the Civil Aeronautics Board in many months was the one issued recently involving two Piper Cubs at Honolulu on Dec. 7, 1941. A witness reported that the planes, rented by two soldiers, each with one passenger, were attacked by Japanese airplanes and fell into the sea. None of the occupants was found.

As the probable cause of the "accident," CAB gave: "Shot down by unexpected enemy action."

Cone Gets Degree

Col. J. Carroll Cone, assistant vice president of Pan American Airways, has been awarded the degree of Doctor of Laws by the University of Arkansas.

German Airlines Put Freight On Preferred List

WARTIME conditions in Germany last year brought a decline in air passenger traffic in favor of freight and postal traffic, according to the U. S. Dept. of Commerce which bases this observation on reports reaching it from Europe.

Commercial air transport operations in Germany during calendar 1941 are reported to have increased approximately 30% over 1940, despite a fewer number of planes available for the service.

Total miles flown last year are given as about 4,312,500 miles (6,900,000 kilometers), or considerably less than the combined mileage operated by American Airlines and Eastern Air Lines in one month. Revenue ton-miles amounted to 5,812,500 (9,300,000 kilometer tons), a gain of 50% over 1940, and approximately equal to the 1937 volume.

Only 111,000 paying air passengers were carried during the year, this number being less than the revenue passengers carried by American Airlines alone in a single peak traffic month.

Baggage and air freight traffic in Germany last year showed increases of 81.4% and 93.8%, respectively, over 1940 figures. The 1941 postal air traffic showed a rise of about 95% over the previous year.

The great increase in amount of air freight and postal traffic last year is attributed in part by the Dept. of Commerce to heavy volume being carried to men in the field by the Balkan services and the lines to Scandinavia.

Out in Front



Franklin

TODAY AND TOMORROW

TODAY, Franklin's four great engine models . . . 65 to 130 H.P. . . . are providing dependable, economical power for thousands of planes serving their country in the CAP and CPT programs.

Tomorrow, when the waves of bombers turn to waves of commercial and private planes, you'll find Franklin still out in front, building even finer engines to power your peace-time flying.



AIRCOOLED MOTORS CORPORATION
SYRACUSE, N. Y.

Single-Engine Planes to Transport Mail and Express on Four Routes

CAB Approves Operations on Suspended Lines

REMINISCENT of the old days, single-engine airplanes are to fly air mail and express over four of the nation's domestic air mail routes.

The Civil Aeronautics Board on June 18 approved the use of such equipment on the following lines:

Inland Air Lines' AM35 (Cheyenne-Huron).

Mid-Continent Airlines' AM48 (Twin Cities-Kansas City, Des Moines-St. Louis).

Northeast Airlines' AM27 (Boston-Montreal).

Northwest Airlines' AM45 (Twin Cities-Duluth-Superior).

Passenger-property-mail service was suspended on these routes recently when the airlines transferred a substantial portion of their twin-engine craft to the Army Air Forces.

"A careful study of the proposed use of single-engine equipment has shown the proposal to be practical and useful," CAB said. It indicated that the planes to be used were of a type that are "not required by the military service for any other purpose."

Operation of this service will make a useful contribution to the war effort in speeding up the flow of mail and cargo to and from those cities deprived of all air service by the new service pattern, the Board explained, adding that a contribution will also be made to a specialized type of pilot training that will redound to the benefit of the war effort.

Stops Restored

Establishment of the operations will result in the restoration of mail-property service to the following communities: Scottsbluff, Neb.; Rapid City, S. D.; Spearfish, S. D.; Pierre, S. D.; Ottumwa, Ia.; Manchester, N. H.; Montpelier-Barre, Vt., and Duluth, Minn.-Superior, Wis.

Some of the airlines involved were reported to have single-engine equipment ready on hand suitable

Telegraph Services Note: It Still Pays to Fly

Latest swats at the airlines with ill-timed inferences and questionable motivations, made their appearances in the east the week of June 15, and probably are being used throughout the nation. Both Western Union and Postal Telegraph-Cable Co. sent 'promotion' material to their large users. The Western Union masterpiece (obviously sent out in large quantity since the addresses were reproduced from addressograph plates) follows:

"Sharp curtailment of air transport necessitated by war demands, as announced in official newspaper releases from Washington, indicates an extensive reduction in air mail service. In the circumstances we would suggest that you use Western Union overnight telegrams to insure delivery of your communications the following morning. Overnight telegrams receive first attention. Rates are low. Maximum charge for 25 words, coast to coast, only 50c—less to intermediate points. . . . This service permits lengthy correspondence at small cost. Use it tonight—get better results."

This promotional advertising piece was signed by A. Simon, WU general manager. A similar one, signed by General Manager C. Hitchen, was sent out by Postal.

Indication that the telegraph companies were not particularly well informed on the air mail situation is seen in the fact that Post Office officials are very satisfied with the way air mail is being handled under the new priority system.

Only infrequently is it necessary to remove air mail from planes because of priority passengers, and even then it is being handled on following trips, with little delay.

For instance, the assistant superintendent of air mail in New York reported that on June 15 a total of 18,641 lbs.—over nine tons—of air mail was dispatched from that terminal.

His report bore the notation: "No congestion. All mail carried."

for the operations, while others must secure it. None of the operators anticipate any difficulty in getting planes.

Several days before the CAB decision, the Post Office Dept. informed that agency that it had no objection to the carriage of mail in such equipment. PO officials informally expressed the opinion that not only would such operations help to move the mail, but might be instrumental in keeping certain airports open, which might otherwise be closed because of suspension of multi-engine service.

A Civil Aeronautics Administration told AMERICAN AVIATION that "we are strongly in favor of" single-engine operations. He expressed the opinion that, in general, the plan will work out satisfactorily. However, service will probably be slower, there will less instrument

flying, and pilots may be required to wear parachutes, he added.

Now that CAB has approved the operations, it will be necessary for CAA to set up operating specifications for the planes.

PAA Merger Authorized

Streamlining for further efficiency in war transport service, stockholders of Pan American Airways Corp., meeting in Jersey City recently, authorized merger of the corporation into its wholly-owned subsidiary, Pan American Airways, Inc. The merger before becoming effective must await approval by the CAB of the company's pending application to acquire control of a South American subsidiary of the line.

CPAL's Insignia



This insignia has been officially adopted by Canadian Pacific Air Lines, formed recently by Canadian Pacific Railway Co. CPAL, organized by the merging of numerous regional airlines operations, is

now one of the largest operators in the world. Its fleet comprises about 20 twin-engined airplanes and approximately 70 single-engined ships. Subsidiaries of the company are operating schools of the British Commonwealth Air Training Plan.



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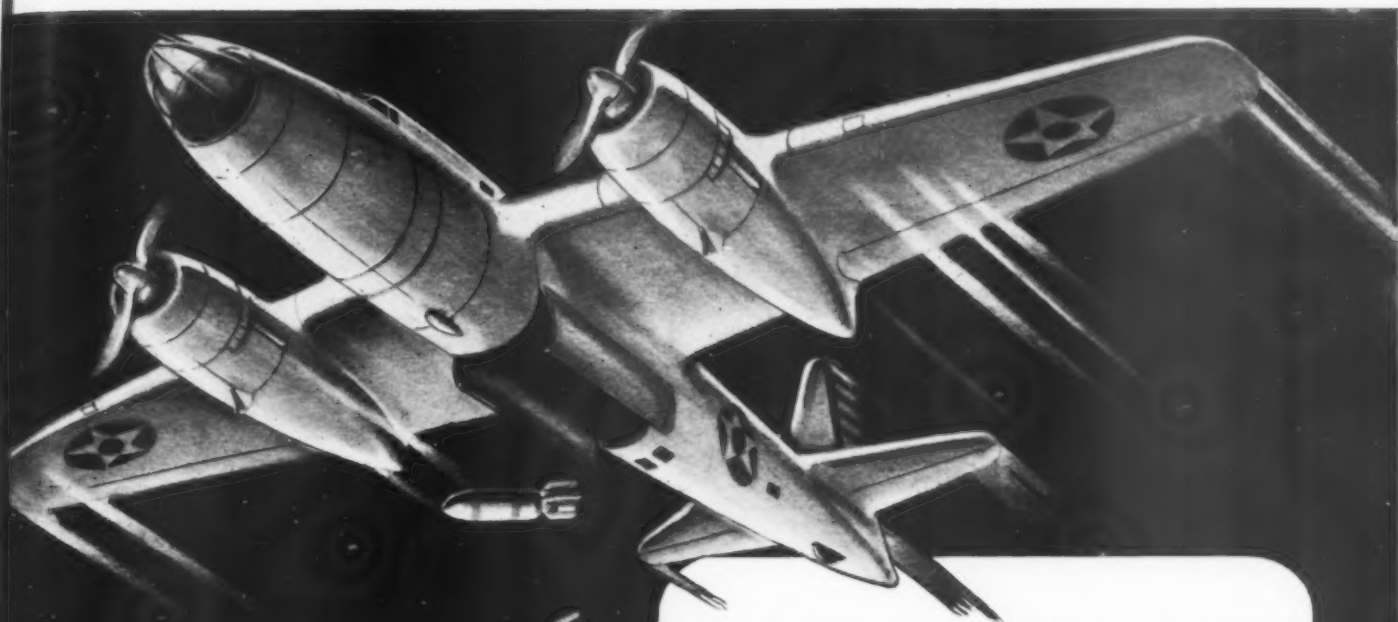
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Delco explosion-resistant fuel pump motors, conforming to latest military aircraft requirements, drive booster and transfer pumps to safeguard the flow of engine fuel on American planes. The dependable performance of these lightweight motors is a factor in the speed and high-altitude-performance of bombers . . . in the speed, maneuverability and climbing ability of fighters . . . and in the dependability of both.

The facilities of Delco Products are engaged in the manufacture of aircraft electric motors, ordnance materials and equipment, and industrial motors and generators to serve war production.



DELCO



MOTORS

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Examiner Favors Disapproval of Airline-Steamship Control

AMERICAN EXPORT LINES, the steamship company, should not be permitted to control American Export Airlines, according to CAB Examiner J. Francis Reilly.

The Board, he said, should order the steamship company to divest itself of its control of the airline, "such divestment to be effected within a reasonable time after the present war has terminated." This will avoid "any possibility of impairing the services which Airlines and Steamship Company are now rendering in furtherance of the war effort."

On June 17, the airline announced that it will institute full service to Foynes, with three round trips weekly, by mid-July.

Control of Airlines by Steamship Company would not enable the latter to use the aircraft of the former in its steamship operations, Reilly found. This, he noted, would be necessary for approval of the application under the second proviso of Sec. 408 of the Civil Aeronautics Act ("That if the applicant is a carrier other than an air carrier, or a person controlled by a carrier other than an air carrier or affiliated therewith within the meaning of Sec. 5(8) of the Interstate Commerce Act . . . such applicant shall for the purposes of

this section be considered an air carrier and the Board shall not enter such an order of approval unless it finds that the transaction proposed will promote the public interest by enabling such carrier other than an air carrier to use aircraft to public advantage in its operation and will not restrain competition").

Reilly stated that "the plain and unambiguous language of the second proviso clearly indicates that Congress intended that before a carrier other than an air carrier should be permitted to invade the air transport industry, it must affirmatively show that it will use the acquired air carrier's aircraft to public advantage 'in its operation.'"

Interpretation

"This language unmistakably means that the aircraft must be used as an integral part in the acquiring carrier's own operations. Any other interpretation would seem to expand or enlarge the terms of the proviso far beyond the natural meaning of the words used and create standards or tests for the application of the proviso which Congress never intended in enacting the legislation. The fact that the two services might serve



Inside a DC-5
Marines Off for Action

identical points is in itself not sufficient to satisfy the requirements of the proviso. There must be an affirmative showing that Steamship Company will actually use Airlines' aircraft as a definite part of its steamship operations.

"The record herein is devoid of such essential evidence. It follows then that Airlines' operations are separate and independent from Steamship Company's operations. It is therefore concluded that the conditions of the second proviso have not been satisfied."

Reilly also noted that "another contention advanced for the approval of the acquisition is that the operation by Airlines will enable Steamship Company to meet 'superliner' foreign steamship competition.

"Steamship Company has never operated any trans-Atlantic de-luxe

passenger service and the passenger and cargo traffic carried by it is not the type that would be sources of potential air traffic. Steamship Company has not attracted those persons who have been desirous of fast and commodious trans-Atlantic service.

Not Competing

"Airlines, therefore, will not carry the type of traffic now being transported by Steamship Company. On the contrary, Airlines will compete for an entirely new class of passenger traffic which ordinarily travels over existing trans-Atlantic air transportation facilities or on 'superliner' type boats.

"The use of Airlines by such travelers will not improve the competitive position of Steamship Company insofar as foreign steamship companies are concerned, as the presently certificated routes of Airlines are substantially different than the routes normally plied by Steamship Company. Revenue from passengers and cargo would accrue to Airlines and not to Steamship Company so that the latter company would not receive any more revenue from its steamship operations than it had received prior to the inauguration of Airlines' operations."

Shebat Named

Herbert V. Shebat has been named by the CAB to be acting senior air safety investigator of the safety bureau's Chicago office, succeeding William A. Butters.

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THE PROMISE

OF THE AGE OF FLIGHT

Never in the history of man has there been such promise of future brilliance in a world filled with the grim disorder of war.

Present emergencies have exposed the tremendous utilities of the airplane in a time of war. But out of a world in flame will materialize an instrument of peace. Never again will man's progress be slowed by barriers of mountain or ocean—never again should there exist those prej-

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UNITED



AIR LINES

BUY WAR BONDS AND STAMPS EVERY WEEK

Airline Personnel



Beach Schroeder Webber Parker Johnson Voight Bassett Enge

Traffic and Sales

Laigh C. Parker, vice president-traffic and general traffic manager of Delta, has been granted a leave of absence to go on active duty with the Army Air Corps Reserve. Capt. Parker has been designated deputy chief in the air division of the transportation section, Service of Supply. **R. Stanley Webber**, director of public relations and assistant to the general manager, will have supervision over the traffic department during Capt. Parker's absence. He will be assisted by **Oscar Bergstrom** assistant general traffic manager, and by **James H. Cobb Jr.**, of the public relations department.

O. C. Enge, district traffic manager for United in WA, has been commissioned as captain and is serving in the newly-established air branch of the Army Transportation Service. **Karl Hughes** is acting dtm for United in WA.

C. E. Houlton has been appointed Trans-Canada's traffic representative at St. John's, Nfld. He is succeeded as Windsor traffic representative by **G. M. Dempsey**, of Montreal.

Kenneth Benson, an organizer of the National Intercollegiate Flying Club and long active in NAA and Junior Chamber of Commerce aviation activities, is now station manager for National at YP.

James Henry, assistant to the president of Penn-Central, and **Frederick R. Crawford**, executive vice president and secretary, have entered the Army, Henry as a first lieutenant, Crawford as a captain. Both will be attached to the Air Service Command.

Fred M. Glass, attorney for American, and **Richard Fell**, of Gulf Oil's aviation division, are now connected with the Ferry Command.

C. E. McCollum is now manager of the central region of TWA's traffic department. **W. F. McGrath** heads the eastern region and **A. L. Stewart** the western region.

Appointments and assignments in American's air mail-express-freight department are as follows: **Walter H. Johnson Jr.**, named assistant manager, located in NY; **John S. Riordon** replaced Johnson as central superintendent; **Howard Willard**, named CG representative; **Thomas E. Bassett**, in charge of the eastern division, assisted by **G. M. Curry**, NY superintendent; **John A. Smith** succeeded Bassett as western superintendent; **Crawford W. Cline**, assigned as southern superintendent, and **Francis J. Beach**, named head of the New England area.

John M. Davenport has been named chief reservations sales representative for TWA in NY. **Ernest Kruttschnitt** and **Donald W. Lirtz** are chief ticket sales representatives for the company in SF and CG respectively.

Miss Kay Bodde, Northwest's traffic representative in NY for the past year, has been placed in charge of the NY office, succeeding **Gordon MacLaren**, who has entered the Navy as a lieutenant (jg).

Clyde Fullerton, TWA's dtm in LA, is celebrating his twelfth anniversary with the company.

Francis G. Malbeuf, formerly assistant to the manager of American's agency and foreign department, has been named assistant to the manager of reservations and ticket offices in NY.

Charles R. Schwartz, formerly American's assistant superintendent of reservations and ticket offices in NY, has been promoted to southern superintendent of reservations and ticket offices, with headquarters in DL.

Operations

Capt. Warren D. "Bill" Williams is now flight operations superintendent of United's eastern division, succeeding **Walter J. Addems**, who was named director of flight operations, **Capt. Otis E. Kline** will serve as Williams' assistant.

A. R. Mensing Jr., western division superintendent of Northwest, has joined the Ferrying Command as a major.

Capt. J. W. Walker has been appointed assistant chief pilot of Pan American's eastern division and has been assigned to supervision of the company's junior pilot training group.

O. T. Ridley, formerly American's flight superintendent in FV, has been named superintendent of transcontinental operations, succeeding **J. G. Flynn**, who is on military leave.

Joseph J. Smith, foreman in American's engine overhaul shop in NY, has been advanced to general foreman of the shop. **E. H. Reins** has received a similar promotion in the airplane overhaul shop. **Allen M. Tucker**, inspector of line maintenance in NY, has been promoted to assistant supervisor of maintenance training.

Allan A. Barrie, veteran Western pilot, is now a major in the Air Force. **Edmund Schroeder**, superintendent of mechanical operations for United's eastern division, has become a major in the Ferry Command, and **B. C. Voight**, manager of passenger service for the eastern division, has joined the service as a captain. **Max D. Kelley**, former chief mechanic in NY, succeeds Schroeder.

Miscellaneous

Ralph Radcliffe Jr., formerly assistant southwest traffic manager for AA, has been promoted to regional personnel director in the southern and western divisions. He will make his headquarters in DL.

Thomas F. Collison, assistant director of public relations for Eastern, has joined the public relations department of N. W. Ayer & Son, advertising agency.

Dr. Hodges McKnight, American's medical director, has moved from FV to NY and has relinquished his private practice to devote his full time to the airline position. **Col. E. C. Greene**, assistant medical director in NY, will continue in the same capacity.



Fullerton Schwartz Bodde Malbeuf Walker Williams Mensing Radcliffe

Inland Cities May Become Tomorrow's Trade Ports

(Continued from page 33)

Pacific at all. It is directly over the Aleutian Islands, Seattle, Denver and the Gulf of Mexico. By air Moscow is 600 miles closer to New York than it is from Seattle, and from Seattle to Calcutta is 7300 miles whereas the sea route is 12,000 miles. San Francisco to Singapore will be twenty-nine hours by air through Alaska, while New York and Capetown, South Africa, will be but twenty-six hours apart. Again I emphasize that these are not drafting board estimates as they would have been three years ago. The war has rushed the air age into existence today and will find its commercial expression the day the war is entirely over.

"Now this rapid shrinking of the globe in terms of transportation and time will result in many new conceptions of commerce. Perhaps most of you who have participated in Atlanta's great growth as a railroad center have never visualized Atlanta as a seaport. Your relationship commercially with the world at large have been through seaports bordering on the ocean. But in the air ocean of tomorrow, Atlanta is just as much of a port in the world trade lanes as New York City is a seaport today. Every community in the world is a port with direct access to every other community in the world, and this is an entirely new concept of transportation.

Three Dimensional

"For all of the years that man has inhabited this earth he has been limited to two-dimensional travel. Now the airplane and radio have opened up a three-dimensional freedom about which we are just now learning. It is the first great fundamental change that has taken place in man's transportation habits.

"In this new three-dimensional world, seaports as we have known them will lose their significance and importance. The vital canals such as the Panama and Suez Canals and other vital sea passages, also will lose their significance. The airplane will supplant the steamship as the major carrier of human beings and cargo, and with this change will come the shifting of emphasis on transfer points. After all, a seaport like New York City is nothing more, really, than a transfer point for transfer of cargo from railroad cars and trucks to steamships and vice versa. This slow and needless handling of cargo at such transfer points becomes useless when the cargo airplane carries its load direct from the source to the point of destination. The great inland areas of Africa, South America, China and Canada which have remained undeveloped because of lack of transportation, will thrive because of the airplane. Our own inland cities such as Atlanta, St. Louis, Chicago, Detroit

and Fort Worth, will be as important as ports of foreign trade as the seaports are today; in fact, some of them will be much more important than some of our largest seaports. Chicago probably will surpass New York as a center of world trade.

"Just take one brief example. We found by bitter experience how foolhardy it was to depend on our supplies of a vital raw material such as rubber from far away points beyond our control. Right now we are endeavoring to make up for lost time by developing the rubber resources of South America. To transport this raw material by surface transportation means that it must be collected, brought to river ports, then transported down the rivers to seaports, transferred to ships, and transported to one of our own seacoast ports and then transferred again to railroad cars for shipment to the processing factories in Ohio. I predict that the future method of getting our rubber from South America will be by cargo airplanes which will take off from jungle airports and fly with but a few maintenance stops direct to the plants in Ohio. Not only will this method be cheaper all around, but it is a far more efficient way of obtaining our raw material stocks. I might add that Atlanta is on that air crossroads of the future.

"What the airplane will do is to eliminate handling points. Raw materials will be flown direct from their source of conversion or processing areas, whether the distances be half way around the world or a few hundred miles. Factories will be built next to airports, just as they have previously been built along railroad arteries; or factories will build their own air freight landing fields next to existing plants. The manufacturer of a product made for the world market will not need to ship his products for a half dozen transfers, but will load his air cargo planes at the door of the plant and fly direct to the market destination.

"At this point you probably are skeptical about the cost element, but I hasten to state that the airplane is destined to be the least expensive form of transportation known to man, and this includes everything from passenger fares to a tonnage-mile rate for freight. The airplane needs few ground facilities and the fact that a cargo airplane today can make 16 miles to every one mile of a freight car, or four miles for every passenger train, and that this ratio will be stepped up after the war, gives the airplane far greater utilization for all types of traffic. Not only is inexpensive transportation inherent in the airplane itself, but the speed element makes the ultimate advantages decisive.

"Too often we have considered the airplane merely as a small unit capable of handling several dozen human beings and a few hundred

Capt. Rickenbacker Opposes Board on Air Mail Rates

OPPOSING CAB examiners' recommendations for a reduction in his line's mail pay, Capt. Eddie V. Rickenbacker, president of Eastern Air Lines, appearing at a Board hearing June 8, said that in his opinion "the mail compensation which Eastern has received up to date is not only NOT excessive but is below what Eastern ought to receive on the basis of standards already established in the industry."

"Considering the mail pay which the Board has granted other carriers of Eastern's classification and considering Eastern's needs for the present emergency and for its betterment and expansion program in the immediate future, the Board ought to direct that Eastern should receive increased mail pay from Dec. 1, 1939 to the date of its decision in this case," he declared.

"On the basis of simple common sense and good business, it would be improper," EAL's president countered, "for the Board to recapture any of the earnings of Eastern." Later he added that such recapture is "unthinkable."

Capt. Rickenbacker presented a lengthy statement covering his company's operating policies and outlined the increased costs with which his line is now faced. He especially stressed comparative operating costs of his company with the other three major lines. Eastern is protesting CAB examiners' recommendations that a mail rate of pay of 3.57c per revenue mile be established for 1941, and also that profits for earlier years be returned to the government.

Efficient Operation

"That we succeeded in making a profit in the four years prior to 1942," Capt. Rickenbacker argued, "is due to the fact that our entire company cooperated in a program of economy and efficiency and that we were able to show expenses that were 12c and 13c per mile less in 1940 and 1941 than the average for TWA, United and American.

"No mathematical genius is needed to observe that a per mile expense of 70c coupled with per mile revenues of less than 60c will inevitably result in losses of over 10c per mile. On the other

hand, even though the per mile revenues are less than 59c, if the expenses are cut below 58c, there will be a small profit. This represents exactly the difference between Eastern and the average of the three other major companies in 1941.

"If Eastern had the same utilization of equipment as the comparable carriers, we would have had to maintain over 50 planes instead of 40 in 1941. . . . Our high utilization has been worked out by careful planning. You can trace a great deal of Eastern's economy to the fact that we use two employees where others use three. TWA operated a little less revenue miles than Eastern, but TWA in 1941 had 53% more employees. And this was true even though Eastern had had nearly 50% more scheduled stops than TWA. The result is that TWA has exactly twice as many employees per scheduled stop as Eastern."

Only 3.57c

"One of the most startling things about the examiners' recommendations is the fact that the recommended rate for 1941 amounts to only 3.57c per revenue mile in contrast with 15.46c for United. This discrimination, which is based solely on Eastern's economy and efficiency, is obviously unjust. The same is true of the rates recommended by the examiners for the future. They amount to only 1/7th to 1/3d of the average mail pay rate per revenue mile already approved by the Board for the other DC-3 operators. This harshness and injustice have stung the management of Eastern and shocked the investors generally, because it is plainly a suggestion that there should be a penalty on successful efforts toward efficiency and economy and the growth and development of air transportation."

Stating that the outlook for the immediate future is "gloomy," Capt. Rickenbacker outlined the many demands to be made upon Eastern for expansion in the near future and post-war period, and how confidence of investors must be restored. "Our passenger revenues were cut down substantially by the unfortunate publicity accompanying the taking of planes by the Army. The non-military public got the idea they weren't supposed to ride the airlines. This curtailment of operations will have a much greater effect than that which will be reflected in our revenues and expenses in the immediate future."

He pointed out that DC-3's are obsolete, as well as all radio. "The mere replacing of our fleet, together with such additional equipment as may be needed for the minimum expansion of our service—that is the expansion which will be demanded of Eastern despite the economic condition of the period—will require an investment of over \$100,000,000 which must be raised through public confidence."

War May Produce 'Convertible' Airliners

Writer Suggests Two-Purpose Planes for Cargo and Passenger Transport

By E. J. FOLEY

RECENTLY, we've had a swell chance to talk to airline operator's personnel now in the Services and some more who have been on inspection trips to West Coast manufacturing plants. "Cargo" is the word you hear most frequently in any such conversation and naturally so.

To do the job that we have before us, we have to move material and men and FAST—but the men we move, in most cases, aren't on missions of leisure demanding deep pile carpet, hot dinners and smiling stewardesses. We all appreciate these things when they are in order. But the men we move today are men of action—fighting men, whether their enemies are Axis troops or production tangles—happy to be a part of the vital "cargo" of today. If and when benches and box lunches become our travel "luxuries," they'll be glad to accept these rations as evidence of our sincerity of effort in the battle ahead.

So, we hear the words "cargo" and "conversion." To twist on old saying—"you can't get any more into an airplane than you take out of it" and so we see conversion of DC-2's and -3's. Tie down fittings, hoist, brackets, benches, "beefed-up" floors replace ash

lamps, soft seats and carpets. Maybe we've seen only the beginning. The future demands on air transport, as a result of the splendid results the industry has achieved in initial efforts as contract cargo carriers for the Services, are unpredictable. The industry has handled capably so many assignments and then found itself beating its head against the wall in attempts to supply the needed capacity that we can't be sure the present service will be any exception.

Flying boxcars—converted from luxury airliners or fresh from the assembly line—these are today's commercial aircraft. But will the pendulum return someday? We have lots of authoritative support for our feeling that it will and when it does we're going to want to travel luxuriously again. This

means air carriers will have to reconvert or provide a new fleet of passenger transports. On the other hand, the moving of express and cargo freight in capacities undreamed of in past peace time is a job that the airlines can and will handle when the world is returned to normalcy. More than simple expansion, this means dual-purpose transport, but does it mean two distinct types of aircraft, each designed and operated for a specific purpose? Maybe so; this may be the way to solve the problem. A partial solution, we concede, will be offered by the increased cargo capacity of the 90,000 to 200,000 pound air carriers of the near future.

Advantages

It's our own thought that a single type of aircraft throughout the operator's fleet is the economical basis for operation of any service. This has been borne out in practice by the near-standardization of aircraft among all the major domestic operators. We mention a few of the benefits of such practice to illustrate our case: spare parts inventories required for only one ship with attendant minimization of space and personnel requirements for this work; personnel training and manpower allocation simplified; concentration of effort should permit maximum aircraft utilization through streamlining of maintenance technique, solution of operating problems, development of special tools and equipment, etc.

However, if we are to realize this ambition, assuming we've elected it as offering the most for our money, we are faced with the requirement for a two-purpose aircraft—a "convertible" in the fullest sense of the word. This ship could be shifted indiscriminately from cargo service to passenger and vice versa. More than this, it would offer the operator certain personal advantages. I think we've all seen instances where the air shipment of a wheel, engine, aileron or similar component would have meant a far earlier resumption of profitable use of an aircraft, and to be able to make this shipment in a standard ship of the fleet would represent the acme in desirability.

Not Temporary

Similarly, an operator moving from one terminal to another or establishing a new route of stations is going to have to make survey or introductory or proving flights to the points anyhow. Wouldn't it be an advantage simply to fly your entire establishment, desks, machine tools, stock bins, etc., on your first few trips? Couldn't the earlier inauguration of service or resumption of terminal activity more than offset the apparent cost of transport medium?

We mentioned the convertible idea to several acquaintances a few weeks ago and one of them branded it as an idea bred in the hot-bed of war-time activity. He said that such a design would represent a perversion of air transport concepts to meet the temporary need of a war torn world. We didn't and still don't think that the need is a temporary one and we think that the application of one type of aircraft to both jobs is practical even though difficult. One point that we must emphasize regarding our convertible is that the keynote of the dual-design must be perfect interchangeability. We should be able to take two production aircraft—one made up for cargo, the other for passengers—and interchange them completely insofar as interior accommodations go. It would seem to us that for a 100,000-pound plane not more than 50 man hours should be required to go from passenger to cargo; probably 50% more than this to reverse the picture. Of course, interchangeability of such parts as nacelles, wings, empennage, etc., is assumed to be available as required. We know that up until three or four years ago at least, and in several specific instances today, nowhere near perfection had been achieved in the direction of interchangeability between aircraft. It appears safe to assume that some gain in ground is bound to result from the present mass production techniques being applied.

Two-Job Plans

With the knowledge that speedily-accomplished interchangeability of interior is of the essence in addition to the more general and equally desirable major component "switchability," we must indicate which of the two accommodations—passenger or cargo—shall dictate the design features. From present knowledge, it appears that passengers, being the more fragile of the two to move with operating profit, should be given preference in our design; from "crystal balling" regarding the net result if passenger-traffic is overstressed, it looks as though an equitable consideration of both must be given. Let's look at one item. The high altitude high-speed aircraft of the immediate future requires pressurized cabins to permit stratosphere operation with passenger comfort and safety. The cargo application of our ship requires an exceptionally large door to handle such items as engines. It's costly in weight to provide "garage doors" in a pressurized cabin. Whether to provide a normal sized pressure-door for passenger use with a pinned or bolted area immediately adjacent and available for cargo, or to use a large separate pressurized belly cargo door—this is one design compromise to be faced. What we need for passenger accommodation in deluxe fashion is pretty well understood, but cargo features es-

pecially applicable to and necessary for simple interior change will stand a brief review.

Passenger seats should be quick-disconnect; there should be no need for two men loosening bolts; no need for access to or assistance from below flooring. Some simple flush fitting in the structure of the floor and sidewall should be all that's left after seat removal. The use of brackets, hinges, clips or any other protrusion invites bending or slows appreciably the loading and handling of cargo. It is quite possible that these seat fittings in conjunction with other appropriately spaced fittings could accept tie-down rings, cargo net connections, etc. Special attention should be paid to material and thread used in such fittings; repeated frequent use merits added consideration to avoid frequent replacement because of seizing, wear, etc. Ash trays, table fittings, etc. might be designed and located with consideration to their possible use in some such capacity in the cargo conversion. Carpets should be easily removable, yet not easily scuffed around when in use.

Here's a pretty tough problem—lace, use glove fasteners, use hold down strips. Whatever the solution, it should be the easiest removable considering, too, stability of installation and overall minimization of weight. The lightweight magnesium or aluminum alloy flooring in the transport is offered the protection of the rug—in a cargo conversion where floor wear is appreciably greater and protection nil, the transport floor is out! Should one of these be the solution—replacement of magnesium floor with a steel or steel-clad alloy at a sacrifice of weight—replacement with bonded steel-clad impregnated plywood flooring—temporary installation of a protective surface similar to either of the above for cargo use at some useful load loss.

Crane Needed

Fittings for shelving along cabin sides might be worthy of consideration and floor fittings to permit the use of lightweight chicken wire partitions in various locations don't seem unworthy of thought. One thing we know will be needed is lifting crane or chainfall availability. For loading a tripod attaching outside and above the door such as is now in use may be acceptable or if loading is done through a belly cargo door, a hoist fitting on the longitudinal center line of the cabin roof is in line. Shifting of cargo or moving the load forward or aft as loading progresses might be accomplished by the use of channel or beam carrying the fall and running the full cabin length—to be hidden of course by the cabin interior paneling. Lighting might be simply passenger lighting

(Continued on page 49)



Foley

Once Idle Energy Now Powers Entire Plant

UTILIZATION of valuable aviation gasoline to the full extent has been accomplished at the Westinghouse plant through a recently adopted scheme to harness all new airplane motors during their break-in runs. Success of the idea according to Engineer R. H. Wright has also resulted in other motor manufacturers adopting the plan.

By installing generators in the test cells, Westinghouse has made each new motor produce about 2,000 kilowatt hours during its test run and they claim that generators now in use in one factory alone will produce more than 4,000,000 kilowatt hours each month, or about \$24,000 worth of power. This new source of energy is sufficient to supply the entire factory, driving all power equipment as well as supply factory lights, it is claimed.

Pre - Oiler

Students at Boeing School of Aeronautics Division of United Air Lines at Oakland, Calif., have developed a new engine pre-oiler for cold starting. Consisting of a two-gallon tank, storage battery and electrically operated gear pump and pressure relief valve, the device is mounted on wheels for portability. Either light grade or engine oil may be used.

New Plastic Glass

Celanese Celluloid Corp., 180 Madison Avenue, New York, N. Y., presents a new product, Lumapane, a laminated plastic glass with a reinforcement filler of wire screen mesh. Lumapane is crystal clear, permits the passage of ultra-violet light and keeps heat in. This shatterproof of glazing material may be repaired with cellulose tape and it is claimed that breakage resistance after repair is the same as for a solid piece.

Glue Pots

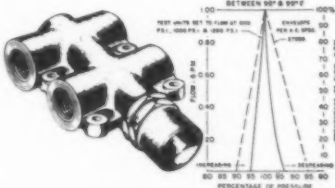
Mono Safety Glue Pots, a product of Mono Service Co., Newark, N. J., are inexpensive "throw away" containers for small or large (5 lb. and 10 lb.) quantities of casein or resin glues. Said to offer advantages over tin containers which corrode, or porcelain which are too fragile, Mono Safety Pots are supplied banded in several different colors which may be used at various times during the day to indicate the freshness of the glue.

Single Driver

A single driver so designed that it will function on large, medium, and small Dzus fasteners has been announced by Products Engineering Co., 700 East Florence Avenue, Los Angeles, Calif. The triple adaptability is obtained by a novel arrangement of varying blade thicknesses.

Noiseless Adel Valve

Adel Precision Products Corporation, Burbank, Calif., announced recently a new relief valve for aircraft hydraulic systems; manufactured per A. C. Spec. 27993. Through design improvement, i.e., reduction of turbulence and excessive fluid velocity, quietness of operation has



been achieved. Positive action is said to be assured at any adjusted setting. Aluminum alloy permanent mold body keeps weight down. The valve is available in 1, 3½, 5 and 8 g.p.m. capacities and with pressure ranges from 600 to 2500 p.s.i. Part sizes, threads and fittings can be had in either AN 10050 or AC 27993.

Cutter - Retriever

Pack-Rite Machine Corp., 828 No. Broadway, Milwaukee, Wisconsin, is introducing the Alpert "Long-nose Cutter-Retriever" which resembles a pistol, the cutting edges being at the "business-end" of a long slim barrel. Designed to cut wire with a one-banded, one-fingered trigger operation or to retrieve or hold nuts, bolts, washers, cotter pins, etc., at inaccessible points.

Plastics Developed

For Aircraft Dial

TRANSPARENT acrylic plastics, already widely used for enclosures, turrets and noses of military craft, are being put to another use—transparent gage and instrument windows such as shown in the Curtiss P-40 fuel gage made by Boston Auto Gauge Co.

Said to be clearer than plate glass and less than half as heavy, these Crystalite gage windows are molded in pairs, complete with mounting holes and ready for installation.

They have another advantage in that they are virtually unbreakable and the functioning of the gage cannot be interrupted by breakage due to careless handling of tools or rough treatment during combat.

Speed Nuts

New "Twin Type" speed nuts have been designed to reduce weight and assembly time for attachment of split fairlead guide blocks. Application of this nut may also be made throughout aircraft wherever fastening points are grouped in pairs. Made up in a strip, carrying two speed nuts (and a center rivet hole if desired), they are a new product of Tinnerman Products, Inc., 2083 Fulton Road, Cleveland, Ohio. They are available for No. 6 or No. 8 screws with the following screw-hole center to center spacing: ½", ⅝", ¾", 7⁄8", and 1".

NO OBJECTIVES MISSED...

NO ENGINES MISSING

News bulletins following the Tokio raid indicated major objectives achieved, and no planes lost.

No engines missing, either, when major objectives are accomplished. Bendix-Scintilla Aircraft Magnets, Spark Plugs and Ignition Switches are designed to fly with the world's best pilots, in the world's best airplanes. And they are built by craftsmen proud of increasing output without the slightest compromise with precision or quality.

SCINTILLA MAGNETO DIVISION; BENDIX AVIATION CORP.

**BENDIX
SCINTILLA**

The World's Finest Aircraft Ignition

Aircraft Wage Stabilization Considered

Rising Pay Scale Hastens West Coast Meeting

By CONRAD CAMPBELL

WAGE stabilization in the aircraft industry, tried once before, will be the subject of a series of conferences starting July 6 under government sponsorship on the West Coast.

The plan is said to have received its first impetus from President Roosevelt in line with his inflation control program, and it is indicated that quick action was suggested by the danger of a rising spiral of wage rates among leading West Coast plane manufacturers.

Labor leaders were quick to jump at the chance for presenting their viewpoints. Richard T. Frankenstein, UAW-CIO leader, demanded wage stabilization on a national basis and to be figured on the highest wage paid on each job classification. He contended that there is no valid reason for the worker on the West Coast receiving 10c to 25c less than a man doing the same work in Detroit, or some other part of the country. His method of arriving at a standard wage rate corresponded to the highest amount paid as a result of collective bargaining and insisted that any lower wage in any part of the country would be sub-standard.

The matter was placed before the six inter-departmental Government agencies interested in labor questions and referred to the Labor Division of the War Production Board. According to WPB officials, labor and management at nine major West Coast airplane factories have agreed to "freeze" existing wage rates until a stabilization formula has been worked out.

In this connection Wendell P. Lund, Director of the Labor Production Division of WPB, has called a conference to be held in Los Angeles; and the labor leaders, the Aircraft War Production Council and the Aeronautical Chamber have cooperated in planning the matter. West Coast manufacturers who will be represented are Boeing, Douglas, Lockheed, Vega, North American, Northrop, Vultee, Consolidated and Ryan.

Emphasis is laid upon the fact that, contrary to the demands of Frankenstein for national wage stabilization, this is the first of a series to determine regional wage standards. However, Washington observers see in this a potential danger of continued disagreements if wages for the same job classifications differ in various parts of the country.

The National War Labor Board, which has claimed a directive from President Roosevelt to "stabilize all wages, iron out inequalities and eliminate sub-standard wage rates," is now considering demands of workers in the Ford and General Motors plants, already paid relatively higher rates than the West Coast, for \$1-a-day wage increases, plus various other upward modifications of wage rates. Recently 75,000 workers in the Chrysler plants made a similar demand.

Negotiations Fail

Negotiations carried on at Detroit have failed to reach agreement and it seems likely that this case, too, will be referred to the National War Labor Board. Many of the sub-contractors in the Detroit area find that their workers, too, are asking for the \$1-a-day general wage increase. With these outstanding cases in which no decision has yet been reached still before the Board, it seems highly unlikely that any workable wage stabilization plan can be formulated, whether regional or national. The Ford and General Motors cases have been before NWLB for a considerable time. Dean Morse and other members of the Board recently insisted that quick action is necessary, but it is hardly to be hoped that a satisfactory decision on the \$1-a-day raise rate will be reached before the West Coast conferences begin.

In the meantime, the Board is promising to take action in the "Little Steel" cases in which similar demands have been made and it may reasonably be expected that opinions handed down in "Little Steel" will set the pattern for the Ford, General Motors and Chrysler cases.

In all decisions NWLB has made to date wage increases have been awarded on the demands of unions, although not as large as requested. In the aircraft industry two recent decisions have established higher rates for workers.

Ranger Decision

On June 12th it was announced that the Board had unanimously decided to grant an upward adjustment of 10c per hour to the employees of Ranger Aircraft Engines, Long Island, New York, "to stabilize the earnings of the company's employees and bring them more nearly to the level of wages paid in comparable plants and on comparable jobs." UAW-CIO had asked an increase of 15c an hour. The Board also ordered the "wage increase to be retroactive to April 10," and raised the hiring rate from 50c to 60c an hour, to be increased to 75c after ninety days. The opinion states in part:

"The War Labor Board has accepted as a solemn obligation, the President's instructions that it should stabilize wages. It appreciates the fact that the obligation calls for the highest degree of judicial impartiality and fairness in reaching its wage determination.



Bicycle Row: California aircraft workers at the Douglas plant are doing their part to conserve vital materials, as demonstrated by this row of bikes—popular mode of transportation since the rubber and gasoline shortage. Recognizing the importance of keeping production schedules up to par, the War Production Board recently allotted 5,766 bicycle purchase permits to the Douglas personnel out of more than 9,000 just released to war plants.

"There is moreover not such a singular thing as an American wage level, but rather, there are many wage levels in this country and they are in constant flux. The interplay of economic forces which produce these varying wage levels cannot be changed from a dynamic to a static phenomenon. However, the coordinated program suggested by the President permits sufficient flexibility in adjusting certain wage rates with the facts and needs of a given situation. Such a program can succeed in stabilizing our war economy. Thus if all groups involved in the President's seven-point program meet the tests of their duties and obligations in the premises, our national economy will be saved from the ravages of inflation. . . .

"It needs to be emphasized that there is no rule of thumb or static wage formula that can be applied mechanically in wage cases to the end of producing wage stabilization. Hence, it is not surprising that the President's message on wage stabilization permits of that degree of flexibility necessary to a fair and just balancing of the various interests which are involved in wage dispute cases. It gives to the War Labor Board that reasonable degree of discretion which is necessary if it is to decide individual cases on their merits and at the same time stabilize wages by checking unwarranted wage demands. Through a wise exercise

of the discretionary power granted to it in the President's stabilization program, the Board can do much toward preventing the cost of living from spiralling upward."

Ryan Order

In the case of Ryan Aeronautical Company, San Diego, California, the Board ordered a general 10c an hour increase, retroactive to October 15, 1941, and a minimum basic hiring rate of 60c an hour, to be increased at the rate of 5c an hour every four weeks until it reaches 75c an hour. These latter adjustments are effective as of the first pay period of July, 1941. In the decision a very similar opinion was expressed as to the desirability of wage stabilization to meet amounts paid on comparable jobs elsewhere, as was disclosed in the Ranger Aircraft Engine case.

With these established precedents by the NWLB it seems evident to Washington observers that any formula arrived at on the West Coast for regional wage stabilization will have to take full cognizance of the Board's expressed labor payment policy.

While the principle of wage stabilization is accepted throughout the industry as necessary to stop pirating and to meet the wage scales paid in other industries, if stabilization means setting the standard at the highest demanded rate, executives consider that many of its advantages will be more than offset by its inherent dangers. Experience has shown that wage scales are seldom, if ever, scaled downwards. Instead each satisfied demand seems to breed a new one.

This is a time of war when many ordinary methods of dealing with business problems must be stretched in many ways. But a steadily ascending wage scale, whether called "stabilization" or "adjustment of inequalities" must sometime meet a point where even government payments on cost-plus contracts are inadequate, and facing the industry at all times, is the problem of how such wage standards will effect the postwar readjustments to civilian production.

Stone Bros. Make Wooden Propellers

Stone Brothers Propeller Co., newly established in Kansas expects to concentrate on the manufacture of wood propellers, test clubs, and blades.

President of the new concern is William B. Stone. Sam J. Stone is vice-president and general manager; Harry S. Stone, secretary and superintendent of production. These men are the sons of M. J. Stone, pioneer prop manufacturer.

It is reported that in 1929 the Stones built the largest plant for wood propellers in the world, Supreme Propeller Co., at Wichita.



Buccaneers • Bermudas — *Blasters from the Air*

BLASTING surprise attacks and long-range raids on land objectives will be among the important functions of the Brewster Dive Bombers. Now in production for the fighting forces of the United Nations, the U. S. Navy and Netherlands *Buccaneers* and the British *Bermudas* will add strength and striking force to the foes of aggression in all parts of the world.

Brewster

FIGHTERS AND DIVE BOMBERS • FOR LASTING MASTERY OF THE AIR

MANUFACTURING

Manufacturing Digest

FORD MOTOR CO. has sold one of its southeastern plants to the Army Air Forces for use as a storage depot. Maj. A. J. Tigreet has assumed duties as commanding officer of the plant.

DOUGLAS AIRCRAFT CO. will begin immediate construction of a new plant on a 1,347-acre tract somewhere in Illinois at a cost of approximately \$20,000,000. The new unit is expected to provide employment for over 15,000 workers.

BELL AIRCRAFT CORP. has leased part of a huge plant somewhere in New York state, which was built during World War I and which later housed Consolidated Aircraft Corp. The expansion "will permit a much greater schedule of fighter plane production," officials said.

CURTISS-WRIGHT Corp.'s Airplane Division has launched a \$10,000,000 expansion program in order to step up production of the Curtiss (C-46) Commando cargo and troop ship, and the P-40 series of fighters. Wherever possible, it was said, wood and concrete will be substituted for steel in the construction of new building units.

REMINGTON RAND Inc. has completed an agreement with Hamilton Standard Propellers Division of United Aircraft Corp. for the

manufacture of Hamilton Standard propellers under license. Remington Rand is reported to have made arrangements for construction of a new \$2,000,000 plant somewhere in New York state.

MILLS NOVELTY Co. of Chicago has been granted a license by Langley Aviation Corp. of New York City to manufacture aircraft and parts under Langley processes and techniques, it was announced by George T. Ross, executive vice president of Langley. Maj. J. Nelson Kelly, manager of the Chicago firm's aircraft division, will be in charge of the development program.

VEGA AIRCRAFT Corp. is now rolling Flying Fortresses off the assembly lines, six months ahead of schedule, according to Courtlandt S. Gross, president. Gross announced that Vega was fully launched into an accelerated production schedule on the B-17, and stated the plant's record of speed has been achieved without slowing down its output of Vega Venturas for the British.

LIQUID COOLED Engine Division of Aviation Corp. has let a construction contract amounting to \$7,300,000 for a new plant somewhere in Ohio. The company will build a new liquid cooled airplane engine for the Navy.

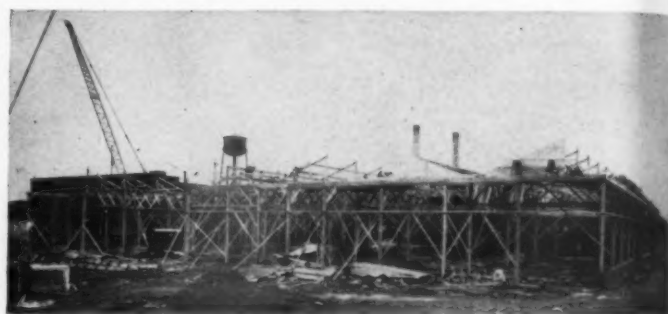
Wright's Engineers Snub Steel in New War Plant

WITHIN 45 days from the time ground was first broken, the new Wright Aeronautical Corporation's airplane engine plant located "somewhere in New Jersey" went into production two months ahead of schedule on its contracts with United Nations for warplane engines, according to an announcement by M. B. Gordon, vice-president and general manager.

Secret of the speed-up was the use of wood instead of steel as the basic construction material, officials said, adding that the specially designed wooden building is an example of the war-time comeback

possible to obtain without delay. But there is no waiting in line for wood," spokesmen said.

Costs in either type of construction run about the same. However, labor—house carpenters as well as the regular industrial carpenters—were found to be much more obtainable than steel workers. The only substantial use of steel throughout the entire job was in the support of masonry above doors and windows. Even the usual requirements for hanging loads from the overhead structure were eliminated through a simplified truss design.



Carpenters Had Chance To Do Their Bit
New Trend In War Effort Utilizes Available Manpower

of wood as the structural material in the eastern industrial area, a trend which has been even more noticeable in the western states.

Wright officials felt that they not only accomplished a saving in strategic materials but eliminated delays which would have been encountered had they used steel.

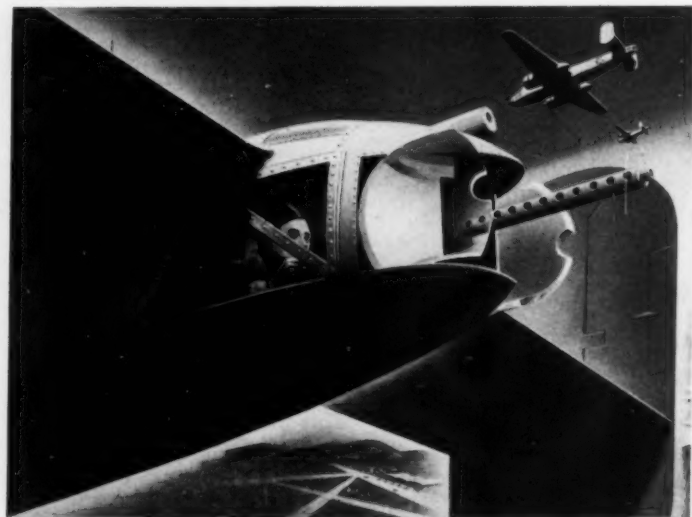
"Time is the vital element in construction of factories for the war program and while some amazing speed records have been made with steel, this material is growing scarce. Even with the highest priorities, structural steel is im-

Timber and planking used in the roofs were thoroughly treated with a fire-resisting chemical.

Construction of the new unit conformed with the company's policy of taking every short cut in obtaining factory space and in addition to radical departure from use of steel, engineers were able to recondition adjacent buildings formerly used for other industrial purposes, thereby adding an additional one third to the millions of square feet of floor space in the new factory.



Interior of Wright's New Plant Built of Wood
Completed Ahead of Schedule, With Very Little Steel



ALL OUR AIRCRAFT RETURNED SAFELY . . .

● Breeze Aircraft Armor Plate today protects the fighting pilots and gunners of America's air forces. Produced by the Breeze Electric Heat Treating Process, Breeze Armor Plate is rapidly becoming standard on American fighters and bombers. Supplementing the well-known line of Breeze equipment manufactured for the United States Army, Navy and Air Forces, Breeze Aircraft Armor Plate is engineered to meet the rigid standards of the aviation industry.

Breeze

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Walnut Furnishes New Tool Molds; Speeds Assembly

A THREE-MONTH speed-up in the production of B-17 Flying Fortresses is being claimed by officials of the Vega Aircraft Corp., Burbank, Cal., as a result of the development of a simple but startling new plastic material made of walnut shells.

Vega's new plastic, developed and



Walnuts for Planes

Baking Produces New Plastic

patented by one of their foremen, is being used in its finished form as a drill jig, a forming die that will stand 8,000 lbs. pressure per sq. in., and several other important purposes. The drill jigs are fabricated by securing the drill bushings to the master parts in a form which is then filled with the plastic and set aside to solidify before being removed and dressed off, ready for use.

The new material, a walnut shell flour, prepared for the molds with ordinary bakery equipment, is first thoroughly mixed with an oil and resin and special compounds for the molds are mixed in copper kettles. The "bread" cures at 175 degrees Fahrenheit and is then ready for use. In contrast to the Vega process, Lockheed is using a phenol acetone thermoplastic which is poured hot and allowed to cool. Members of the Vega tool development group claim the advanced technique now makes it possible to complete a tooling job in three or four hours instead of a week as required under the old method.

Additional advantages claimed are less cost in duplicating tools in that the plastic forms are re-ground and used as filler in new jigs or dies.

Super Gas Announced

Commercial production of a new high octane blending synthetic which it is claimed increases the power of high octane aviation gasoline, has been announced by the Shell Oil Co., Inc. Company spokesmen also say the new product has an exceptional anti-knock quality in the super-charged aviation engines, making possible quicker takeoffs with heavier loads.

Martin's 1942 Output \$250 Million

Indicative of the sensational expansion of the aircraft industry is the announcement by Glenn L. Martin to the Aviation Writers Association that his company alone this year will deliver aircraft valued at \$250,000,000 to \$260,000,000. Aircraft exported by the entire industry in the first eight months of 1941, biggest year in history, totaled \$254,000,000.

Martin production has increased every month this year and in the first 5½ months the company has exceeded its unit output for the full year 1941. Although the organization could produce more than WPB schedules now permit, material supply problem has eased somewhat. Some difficulties are still encountered with subassembly suppliers, however.

Rubber Tank May End Gas Problem

THE AVIATION INDUSTRY appears to be on the verge of making another important contribution to the U. S. war effort, according to details of an experiment now being conducted by the Glenn L. Martin Co., of Baltimore.

Collapsible fuel tanks of synthetic rubber that transform railroad boxcars, trucks and wooden barges into tank cars and tankers to carry gasoline is the ultimate goal of the company's engineers, reports Glenn L. Martin, president and general manager.

Made of synthetic rubber, the fuel tanks are an adaptation of the self-sealing or bullet-proof gasoline tanks now in use on airplanes. Mr. Martin sees possibilities of relieving the serious gasoline transportation problem through the use of the rubber tanks, which would convert boats, boxcars, trucks, barges and even gondola cars into gasoline carriers.

The rubber tanks, already made experimentally, and called "Mareng cells," are collapsible and can be compactly bundled for return shipment, the original carrier being left free to make the return trip with another cargo.

Douglas Chief Lauds West Coast Workmen

AN ARMY of employees of the Douglas Aircraft Co., Inc., recently heard tributes from their chief, Donald W. Douglas, as a result of their "determination and genius for getting things done" on the production lines of the company's plant "somewhere on the Pacific coast."

"Here we have erected what impartial observers call the most modern and best-equipped aircraft plant in America," he told assembled workers. "In it we are now in full and concurrent production on four-motored Flying Fortresses, deadly attack bombers and equally vital cargo craft. One after another in swift succession they are pouring out of our factory."

Douglas paid high praise to associate manufacturers in the Boeing-Douglas-Vega pool in which resources of engineering skill, physical assets and personnel of the three organizations were combined to the end "that America's four-engined bomber production should exceed that of the axis nations' total."

Johnson Honored

P. G. Johnson, president of Boeing Aircraft Co. and Boeing Airplane Co., was conferred the degree "Alumnus Summa Laude Dignatus" and was chosen "Alumnus Number One" for the year at the commencement exercises of the University of Washington last month. Fifth person in the school's history to be thus honored, Johnson was selected because of his outstanding work in the aircraft industry.

Cohu Named

Northrop Aircraft, Inc., announces the appointment of Henry Wallace Cohu as the firm's Washington representative, with offices at 616 Southern building. Thomas H. Quayle former representative in the capital, is being transferred by Northrop to Dayton, O. Mr. Cohu is a director of Air Investors, Inc., and Aviation Group Shares of Institutional Securities, Ltd.

War May Bring 'Convertibles' To Air Line Service

(Continued from page 42)

with trim, magnifying lenses and similar "cheese cake" removed.

At the time of manufacture, it would appear that the manufacturer's customer service department with its knowledge of needs and application should be able to provide at least sketches and installation details of such requisites for operation as nets, tie-down technique, brace points for shoring, etc.

Well, that's our point of view on the story—one type of aircraft convertible to either use to provide the operating economy so desirable and to be designed with full consideration for both applications. We don't see where it's anything impossible—though it may well be a problem calling for much thought. We hope that we've spread the germ of the idea to some on both sides of the fence—those who will be faced with the post-war problem of flying passengers and cargo in unheard of capacities and those who will be responsible for the design and manufacture of the aircraft to do the job. The defense rests—temporarily. We'd like to hear the comments of all of you—this is a forum or "againstum" as you like it.



this war can't be won without **RELAYS**

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- SOLENOID CONTACTORS

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LARGEST LINE OF RELAYS SERVING AMERICAN WAR INDUSTRY



WING PLAT
CHANGED FROM ALUM. ALLOY
TO PLYWOOD AND SPRUCE
CONSTRUCTION

FUEL TANK COVER
CHANGED FROM ALUM. ALLOY
TO PLYWOOD AND SPRUCE

LANDING GEAR BRACKET
CHANGED FROM MAGNESIUM
TO ALUMINUM ALLOY

The Fairchild PT-19
More Wood, Less Aluminum

New Ryan School

A new Army Air Forces primary training school has been established at Tucson, Ariz., as part of the Army training program expansion by the Ryan School of Aeronautics, San Diego, Cal. Construction at the

new site, southwest of Tucson, will begin immediately, according to Earl D. Prudden, vice-president, and the first classes will be in training within three months. The new school will be under the supervision of the West Coast Air Forces Training Center.

New! Amazing Achievement!

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FATIGUE
RESISTANCE
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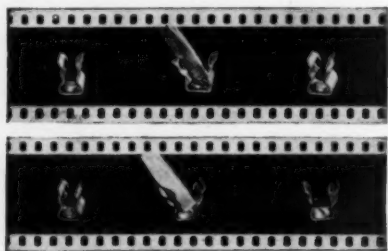
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Same test of phosphor bronze clips. Observe deformed condition after test.

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On the Labor Front

AIR CRUISER CO., Paterson & Passaic, N. J.

According to union leaders, employees have received wage increases of 12 1/2% an hour.

ALLISON DIVISION, GMC., Speedway City, Ind.

NLRB election for bargaining representation held; 59% voted for United Aircraft Engine Workers, an independent union; 38% for UAW-CIO; and 3% for neither.

ALUMINUM CO. OF AMERICA

Strikers at Cleveland plant returned to work after threat from Maj. Gen. Becker of Army action. Demand of 2,800 workers was for 10c an hour increase over basic rate of 67c minimum scale. Walkout certified to Department of Labor. Employees at Detroit plant also struck but returned to work when company agreed to consider a new contract.

AMERICAN BRASS CO.

NLRB orders an election for union representation at Buffalo plant.

AUTOMATIC PRODUCTS CO., Milwaukee, Wisc.

In a four-way balloting, UAW-AFL won a NLRB election.

BENDIX AVIATION CORP.

Plant at North Hollywood, Cal., directed to hold an election by NLRB. To decide among IAM-AFL, UAW-CIO and Bendix Employees, Inc., for bargaining agent.

B. G. CORPORATION, New York City, N. Y.

Employees returned to work after AAF officer appealed to their patriotism. Demands for wage increases and improved working conditions will be negotiated.

BROWN & SHARPE MANUFACTURING CO., Providence, R. I.

Company is directed by NWLB to sign a "union security" agreement with IAM-AFL.

BOEING AIRCRAFT CO., Seattle, Wash.

AFL and CIO accuse company's Wichita division of influencing employees against organized labor. George Bokart of Department of Labor has held hearings and case is referred before NLRB.

BOHN ALUMINUM & BRASS CORP., Detroit, Mich.

Recommended by Maj. George Strong, AAF head of procurement area, and with sanction of UAW-CIO, seven ringleaders of a wildcat strike in which 2500 participated were discharged. NLRB has ordered an election among plant protection employees.

BRIGGS MANUFACTURING CO., Detroit, Mich.

Employees waive overtime pay for weekends if included within 40 hour week but demand \$1-a-day wage increases.

EDWARD G. BUDD MANUFACTURING CO., Philadelphia, Pa.

Company has been ordered by NLRB to disestablish Employee's Representation Association and cease giving any effect to agreements or contracts with it. Board also found that company had discharged two employees because of union membership and activity and ordered them reinstated.

BUFFALO FORGE CO., Buffalo, N. Y.

Workers vote 491 for USA-CIO, independent union 325.

CHRYSLER MOTOR CO., Detroit, Mich.

Protesting the hiring of negroes on production work, 3,000 workmen were sent home to prevent clashes. Company officials state negroes were hired in accordance with seniority provisions in UAW-CIO contract.

A dispute over conversion of salaried employees to hourly basis at Detroit and Marysville plants has been certified to NWLB.

In negotiating a new contract unions demand \$1-a-day general increase, \$1.50 an hour for maintenance workers; \$1 an hour minimum in all plants; \$100 war bond in lieu of vacation. 75,000 workers involved. Unable to agree, demands will probably be certified to NWLB.

CURTIS-WRIGHT CORP.

NLRB orders company to withdraw recognition from Propeller Craft, Inc., at its Clifton and Caldwell plants.

ELECTRICAL STORAGE BATTERY CO., Philadelphia, Pa.

Controversy involving 3,220 workers on wage scales, union shop, and premium rates for second and third shifts has been certified to NWLB.

FAIRCHILD AVIATION CORP., Jamaica, L. I., N. Y.

NLRB has certified UAW-CIO as union for employees.

FEDERAL ENGINEERING CO., Detroit, Mich.

At first, strikers defied a "Work or Fight" ultimatum by Maj. George Strong, AAF, continuing picket line for week, but went back to work when the Army sent a truck to remove "crucial" war work. NLRB will consider an election and State Mediation Board is to select a shop committee.

FLOYD BENNETT FIELD, N. Y.

Jurisdictional strike of 250 electrical workers in International Brotherhood of Electrical Workers, AFL, and United Telephone Organizations tied up all construction work on \$8,120,000 expansion program. Case was referred to NWLB which arranged for end of walkout pending consideration at Washington.

HAYES INDUSTRIES, Jackson, Mich.

Workers end strike and start negotiations; 2,800 workers involved.

MT. CLEMENS TOOL & GEAR WORKS, Mt. Clemens, Mich.

Company is ordered by NLRB to cease discouraging membership in UAW-CIO.

NORTH AMERICAN AVIATION, INC.

UAW-CIO leaders in organization drive at plant in Wichita area notify company they expect wages to be stabilized upward, comparable with other aircraft plants.

RANGER AIRCRAFT ENGINES, division of FAIRCHILD ENGINE & AIRPLANE CORP.

NWLB orders 10c wage raise and increase of hiring rate to 60c to be increased after 90 days to 75c.

REYNOLDS METALS CO., Longview, Wash.

Demands of 3,764 workers, Aluminum workers of America, AFL, for wage increases and better working conditions certified to NWLB.

JOHN A. ROEBLING'S SONS CO., Roebing, N. J.

Men insist on 25% wage increase which company says is unreasonable and impossible; 600 workers stage a sit-down strike.

SEALED POWER CORP., Muskegon, Mich.

Work stopped on aluminum piston line when a woman production checker

(Turn to page 52)

MANUFACTURING

Manufacturing Personnel



Jordan Middleton Valley Rogers

Philip H. Schneck, planning supervisor of the Curtiss-Wright propeller division has joined the U. S. Army Air Corps. Capt. Schneck will be stationed at Wright Field, Dayton, Ohio. A veteran with 10 years' service behind him with Curtiss-Wright, Schneck was in the project engineering department of the Curtiss Aeroplane division of Curtiss-Wright at Buffalo from 1931 to 1935, and has held the job of planning supervisor at the New Jersey plant since 1941.

John M. Rogers, vice-president in charge of sales for Douglas Aircraft Company, has been assigned the role of co-ordinator for the company's world-wide activities in the assembly and servicing of military aircraft.

Henry M. Hogan, a General Motors vice-president, is the new chairman of the Board of Directors of North American Aviation, Inc., succeeding **Ernest R. Breech**, who resigned to become president of Bendix Aviation, Inc.

Emmett Sheahan, former general manager of United States Rubber, has been named assistant to President **F. B. Davis, Jr.**

William G. Fuller, for 17 years city airport manager at Fort Worth, Tex., has resigned to take an executive post with the Globe Aircraft Corp. **John Kennedy**, Globe president, said Mr. Fuller would be in charge of service management.

J. M. Barr of United Aircraft Corp., is the newly appointed assistant general manager of Vought-Sikorsky, having been relieved of his former duties as factory manager for United Aircraft. General Manager **C. J. McCarthy** of Vought-Sikorsky named **B. T. Taliferro** as factory manager to fill the vacancy and also promoted **John F. Hemmert** to the post of assistant factory manager. **Sydney Hexon** is the new factory superintendent and **Earle F. Fay** will be his new assistant.

J. E. Hughes, prominent flyer and aeronautical engineer will become resident manager of Adel Precision Products Corp.'s new engineering service office at Dallas, Tex. The announcement was made by **H. Ray Ellinwood**, president. Hughes, before joining Adel's engineering service department, was connected with Curtiss-Wright Corp., Bell Aircraft Corp., Republic Aviation Corp., and the Ford Motor Company.

Clyde Jordan is the newly-elected vice-president and manager of the line support division of Adel Precision Products Corp.

Benjamin T. Salmon is now chief engineer of the Ryan Aeronautical Company, San Diego, reports **T. Claude Ryan**, president. **Millard C. Boyd** has been named chief development engineer and **Will C. Vandermeer** chief project engineer.

H. F. Schwedes becomes new factory manager of North American's Texas division in one of several new appointments and promotions announced by the company. **K. P. Bowen** is assistant, **C. E. Kindleberger** is general superintendent for section A, and **Roy Bodeen** who has been general foreman of flight test is promoted to superintendent in charge of flight test and service.

Amberse Banks is new flight operations manager at the Nashville, Tenn., division of Vultee Aircraft, Inc., announces **Robert McCulloch**, plant general manager. Banks will be assisted by **Cy Younglove**, chief test pilot.

William P. Gwinn took over duties as new assistant general manager of Pratt & Whitney Aircraft division of United Aircraft Corp., recently, according to General Manager **H. M. Horner**.



Gwinn Salmon Banks Hogan

Ralph E. Middleton, Aircraft Accessories Corp., chief engineer, has been given the added duties of works manager of the company's hydraulics plant, reports **Randolph C. Walker**, President.

George Tharratt, chief engineer of Adel Precision Products Corp., originator of new production illustration methods designed to simplify airplane assembly, was given national recognition in the June issue of *Fortune* magazine.

A. J. Valley holds the new position of engineering service manager of Adel Precision Products Corp., announces **Harold E. Webb**, vice-president in charge of sales and service.

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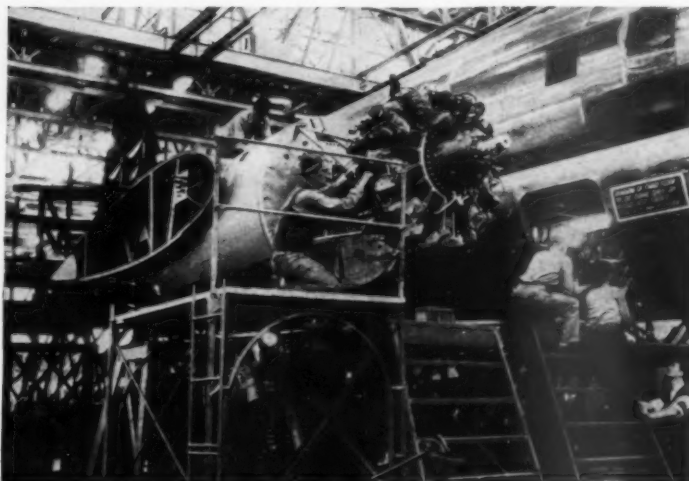
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Engine Installation: One of two 1,750-hp. engines is shown being installed in one of the Army Air Forces' new 25-ton Curtiss Condor III (C-46) transports now being produced by Curtiss-Wright Corp. The new aerial giant will transport soldiers, light field artillery, and light reconnaissance cars.

Continental Motors

CONTINENTAL MOTORS CORP., Muskegon, Mich., reports net profit of \$1,926,178 for the six months ended April 30, 1942. This is after deductions for taxes and allowances for reserves and charge-offs, and compares with a net profit of \$1,224,128 for the same period a year ago. Net sales for the period increased 340%.

Continental Motors has announced that holders of old no-par and old \$10 par common stock issued and dated prior to October 25, 1935, will be required to exchange their certificates share for share for present \$1 par common stock before receiving 15c dividend payable July 2 to stockholders of record June 11.

Harvill Aircraft

HARVILL AIRCRAFT DIE CASTING CORP., Los Angeles, has asked stockholders for consent to authorization of a new issue of 6% preferred stock. Company plans to issue the new stock from time to time as payment of stock dividends to common stockholders. It is hoped thus to conserve current earnings in the form of cash necessary for financing new developments.

Classified Ads

WANTED—Flight Instructors with ratings to qualify as flight instructors in Air Force Primary Flying School. Also mechanics and helpers. Hawthorne School of Aeronautics, Orangeburg, S. C.

AVAILABLE—Airline Captain. Five years experience as First and Second Pilot. Five years Operations and Traffic experience. Write Box 346, AMERICAN AVIATION, American Building, Washington, D. C.

Penalties Fixed

Revocation of citizenship, a \$10,000 fine or 10 years imprisonment, or both, is the penalty provided for government contractors making false statements on naval contracts in a recent Senate amendment to legislation extending the expiration date on the so-called "Speed-up Law"—authorizing the Navy to negotiate contracts, among other things, to expedite the defense program.

Aero Timber Co. Organizes

Organization of an airplane spruce production company at Vancouver, B. C. was completed recently, to be known as the Aero Timber Products, Ltd. The government financed corporation is headed by Robert J. Filberg of the Comox Logging Co., as president J. H. McDonald of the British Columbia Mfg. Co., is vice-president.

SEC has approved application and granted unlisted trading privileges on the San Francisco Stock Exchange to Boeing Airplane Co. \$5-par capital stock. Application for Douglas Aircraft Co. no-par-value capital stock has been reserved for a 15-day period awaiting introduction of additional evidence.

Labor Front

(Continued from page 50)

was placed on line. A compromise settlement after an appeal by Secretary Knox ended the stoppage and 1,000 workers returned after one day.

SQUARE D. CO., Kollsman Instrument Division, N. Y. C. Company ordered by NLRB to disestablish Aeronautical Instrument Makers America and also to refuse to recognize the Relations Board of Kollsman now discontinued. Charge company domination.

STANDARD TOOL CO., Cleveland, O. Dispute concerning wages and recognition certified to NWLB after employees went on strike.

STERLING ENGINE CO., Buffalo, N. Y. In NLRB election, UAW-CIO won by margin of 51 votes.

U. S. RUBBER CO. Indianapolis plant is ordered by NLRB to hold election.

WRIGHT AERONAUTICAL CO., Paterson, N. J. NLRB certifies Pattern Makers League of North America as bargaining agent for pattern makers.

Solar Aircraft

Solar Aircraft Co., San Diego, Calif., for the year ended April 1942, had net sales of \$8,553,300. Net profit, after provision of \$405,000 for taxes, was \$280,384.

Balance Sheet as of April 30 shows assets of \$3,963,606. Current assets of \$3,243,289 include cash \$239,040; accounts receivable \$86,945; inventories \$2,037,403. Property, plant and equipment are valued at \$653,669 after deducting \$195,770 for reserves covering depreciation and amortization. Deferred charges total \$41,645.

Current liabilities are \$2,799,000 including notes payable \$967,500; accounts payable \$921,804; wages and salaries payable \$194,820; accrued expenses \$17,232; taxes payable and accrued \$469,501. Capital stock totals \$930,000; paid-in surplus \$47,255; and earned surplus \$174,880.

Solar directors have declared dividend on common stock of 10¢ share, payable July 1 to stockholders of record June 20. The regular semi-annual dividend of 2¢ a share on preferred stock is payable July 15 to stockholders of record June 30.

Kinner Motors

KINNER MOTORS, INC., Glendale, Calif., shows net earnings of \$222,849 for the nine months period ended March 31, after deductions for income taxes. This amounts to 3¢ a share on 445,978 outstanding shares of capital stock.

Sales were more than double those of the same period a year ago, totaling \$2,366,609. This compares with \$877,732 last year. Gross earnings amounted to \$626,332, against \$190,484 for the period ended March 31, 1941.

For the third fiscal quarter only January 1 to March 31, 1942, net earnings were \$74,593, or 16.7¢ a share.

Western Air Lines

Net loss of \$14,590 for the first quarter of 1942 is reported by Western Air Lines. Loss for the same period last year was \$60,323. Reduction in loss is reported by the company to be due principally to 98% gain in express revenues and 68% gain in passenger revenue.

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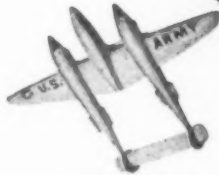
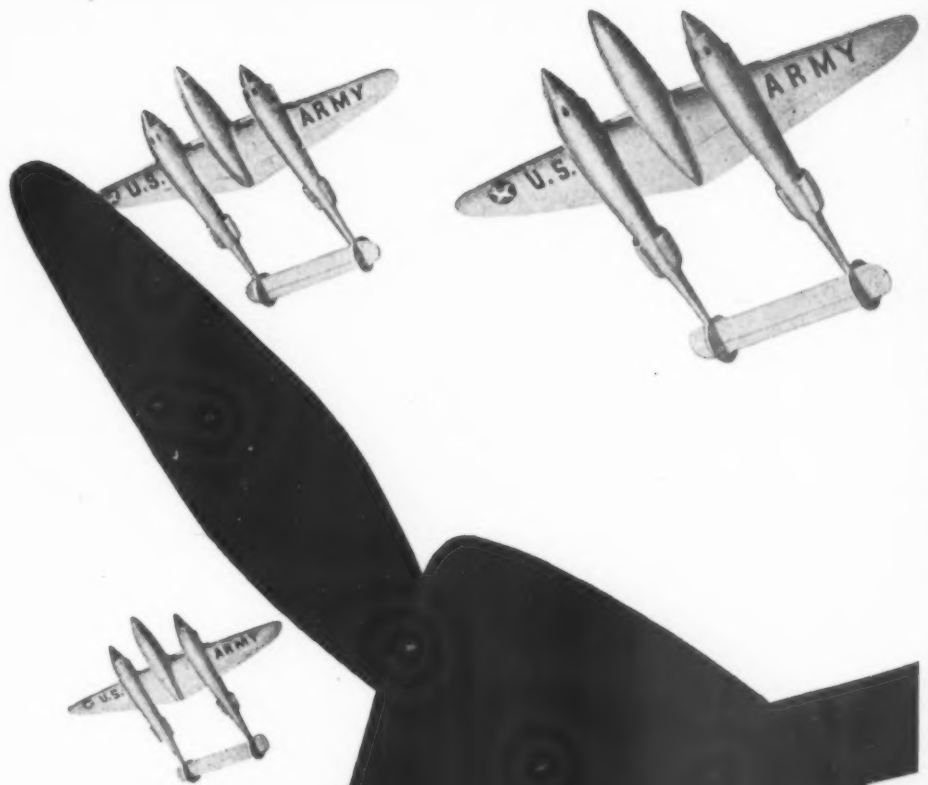
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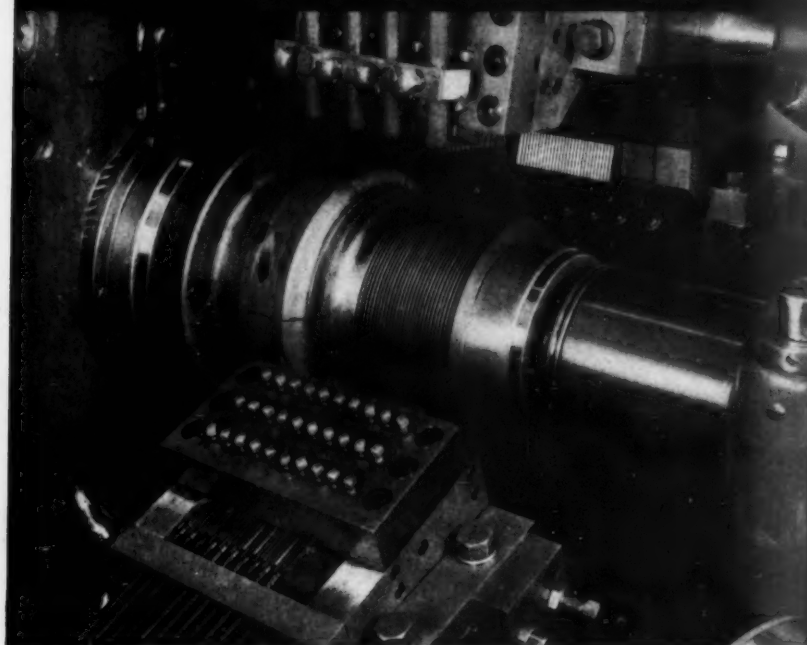
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